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THE GENESEE FARMER:
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D. D. T. MOORE, PROPRIETOR.

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Study the Soil.---Magnesia.

In former articles under the heading "Study the Soil," we have noticed silica, (pure flint sand,) alumina, iron, and lime. We now ask attention to a few remarks on the alkaline earth called magnesia.

This mineral is found in the ashes of all, or nearly all, cultivated plants; and exists in the blood and lean meat of animals as well as in their bones, in the form of a phosphate, but in a much smaller quantity than phosphate of lime. The magnesia found in soils is mostly derived from a rock, technically called *dolomite*, which is a magnesian lime stone. Where the proportion of magnesia is large, and the rock near the surface, the soil is apt to be wet, and very sterile. This is particularly the case in some places in England and Germany. The free use of burnt lime has often proved injurious, from the circumstance of its containing more magnesia than can be safely applied to soils and crops at once. All the salts of this mineral, unlike those of lime, are extremely soluble, except the carbonate.—It is in this form that all sedimentary magnesian rocks are found. Rocks of an igneous origin, i. e., those that have been melted in volcanic fire, or something of the kind, which contain magnesia, present it to the chemist, not in the form of a carbonate, but a *silicate* of that base. Serpentine and talc (minerals of a volcanic origin,) are nearly pure silicates of magnesia. In hornblende and augite, (minerals of a plutonic or granitic origin,) we find a considerable amount of the same compound.

The student (and are we not all students?) who desires to learn something more of agricultural geology, will not take exceptions to the introduction of such terms as hornblende, augite, serpentine, and talc, when he is informed that it is from the slow decomposition of these crystalline rocks, through the agency of carbonic acid in the atmosphere, aided by frost, rain, and electricity, that all stratified rocks of *carbonate* of magnesia and of lime are produced. The silicates of lime, potash, and soda, are decomposed by the same atmospheric agents which decompound the silicate of magnesia. Hence, almost all limestone rocks contain more or less carbonate of magnesia. Stratified sandstone is the silica with more impurities, separated from the alkalies and alkaline bases in granitic rocks.

Both Liebig and Boussingault suggest that magnesia will perform the function of lime in the economy of plants; and hence, if a soil is found to possess a fair supply of either alkaline earth, the other need not be applied. With due deference to these distinguished names, we must say that this idea of the isomeric* character of lime and magnesia in building up the organized tissues of vegetables and animals, is not well founded. Those excellent chemists have failed duly to consider the important fact in animal physiology, that the *phosphate of magnesia* never serves as a substitute for *bone earth*. Hence, if cultivated plants could grow and perfect their seeds without lime, using magnesia in its stead, all such plants and their seeds would be worse than useless as food for man and his domestic animals. The truth is that, Nature furnishes and uses both phosphates, but more of the salt of lime than of magnesia.

When we study rocks, soils, and plants, with reference to their agricultural value, we must never omit to consider the various elementary bodies which Providence has appointed to form the whole system of a healthy human being.—All authors with whom we are acquainted, that have written on agricultural geology and chemisty, have failed in this respect. Dr. SPRENGEL, whose analyses of plants are the frame work of

* *Isomeric.*—In chemistry it is one substance that can exactly fill the place and office of another.

Prof. Johnston's excellent Lectures on Agricultural Chemistry, found that the sulphate of magnesia and the sulphate of lime had precisely the same effect on a variety of crops; and inferred that the one salt might be used in all cases as a substitute for the other. Had Dr. S. stopped to consider how different must be the operation of an ounce of epsom salts (sulphate of magnesia) from a like weight of gypsum in the stomach and bowels of a man, he would have discovered the error of his opinion in regard to organising food for man. The *sulphur* in epsom salts is quite as good for peas or clover as the sulphur in gypsum. But the magnesia of the former can not do the work of the lime of the latter.

In the September number of the Albany Cultivator, Mr. Howard, its editor, notices the soil of a farm belonging to Mr. Johnston near Geneva, which effervesces with acids, and is supposed to abound in lime, and yet it is much benefited by the use of burnt lime. It is not improbable that this soil, on analysis, will be found to contain more carbonate of magnesia than lime; and that the foaming on the application of a strong acid, is owing rather to the decomposition of the former than the latter mineral. Caustic lime possesses properties and exerts influences which do not belong to the natural mild carbonate. We should like to examine that portion of Mr. J.'s field to which no lime was applied, in his interesting experiment. The circumstance that wood ashes produce little or no good effect on this farm, seems to indicate that the soil is either quite clayey and wet, or that it abounds in all the mineral elements of maple, oak, and hickory, as well as of clover, wheat, corn, and potatoes. We have helped to clear a good deal of land, and have seen thousands of acres of virgin soil yield their first harvest; and do not now recollect ever to have found the place where a log heap was burnt, and more or less *ashes* left on the ground, that did not give a little larger wheat, rye, corn, oats, clover, or timothy, than grew elsewhere in the field.

There are exceptions to all, or nearly all, general rules. But, as wood ashes contain about the same amount of the salts of magnesia which ordinary crops require, we do not hesitate to recommend their application to meadows, pastures, and tillage lands, to supply the magnesia taken off in hay, grain, milk, and the urine and dung of animals, which are foolishly wasted.—Being very soluble, the salts of magnesia are extremely liable to dissolve in the water that falls in rain and snow, and pass with it into the Atlantic ocean. Prof. Johnston says that 100 parts of its water contain 3¼ of epsom salts (sulphate of magnesia.)

So soon as we get our canals and railroads completed, and all the boys that read the Genesee Farmer grow up to be men, and know just what is required to form every crop, old Ocean will be called on to give back the cream of continents and islands, which a thousand rivers for indefinite ages have never for a moment ceased to pour into her bosom. A few fish, oyster and clam shells, a little guano, and other fertilizers, will not meet the wants of the rapidly augmenting millions of our race. The water of the ocean must be evaporated and its salts carried back to the cultivated fields from which the rains of heaven wash so many millions of tons in the course of time. How much magnesia and other elements of wheat, think you, kind reader, the Genesee River has poured into the basin of Lake Ontario, to flow thence into the Gulf of St. Lawrence, within the last ten thousand years? Every gallon of the water of this river contains an appreciable quantity of magnesia. The whole Onondaga Salt Group abounds in this mineral. Some of the wells in this county furnish epsom and glauber salts enough to physic strangers not accustomed to the use of their saline liquids.

By irrigating his meadows with the water of the river Sauer, M. Boussingault was able to take off in hay annually, without injury, the following minerals:

Phosphoric acid,	1254 lbs.
Sulphuric acid,	627 "
Chlorine,	602 "
Lime,	4155 "
Magnesia,	1672 "
Potash and Soda,	5456 "
Silica,	7312 "

The hay was fed to beasts fattening for beef, and the above minerals were carefully saved in the shape of manure, and made into wheat and other grain, which were sent annually to market. Without the salts from the *Sauer* the system could not work ten years. Most of the salts of magnesia contained in the food of animals escape from their systems by the urinary passage.

"Lime Mania."

The attentive reader of this journal will recollect that we commented, in the August number of the Farmer, on some remarks in the Massachusetts Ploughman on the action of *lime*, and asserting its small value as a fertilizer. That journal copies what we said and makes the following reply under the heading—"*Lime Mania*:"

Such are the arguments that are relied on to prove that lime is the most important article which a farmer can procure for his fields!

It will be seen that the writer does not attempt to prove that lime hastens the decomposition of other materials (a position which most of the advocates of lime assume) but asserts that "no other element, &c., has been so generally and so successfully used as a fertilizer, both in this country and in Europe, *as this same mineral called lime*."

This we utterly deny, and should like to have some evidence of it before the writer proceeds any farther. Can the Genesee Farmer pretend that lime has been more generally applied and with more success to enrich lands than the excrements of horned cattle, horses, sheep, and hogs? Can he make us all believe that lime is more enriching than the putrid flesh of land animals or fish? Or that it has longer been in use?

Oh, no, but "bones cannot be formed without lime,"

therefore the food of animals must contain lime in order to make bone, and therefore lime must be procured and spread on to lands or the plants on which animals feed will find no lime, and cattle will have no bones!

Our Genesee friend seems to forget our admission that lime is beneficial on certain soils. We admit its usefulness where iron ore abounds, and has he shown that it is useful any where else?

He supposes that the adding of lime to all soils has improved them. He ought to recollect that in England many farmers deny that lime has been of the least service when applied to their lands.

But "lime is found in all plants." So is *sand*, or what is called *silex*—but it does not exactly follow that sand would always prove a very useful adjunct to our New England soils. Lime is found in all the varieties of soil, and plants have lime in them. What then? It was found by Dr. Jackson, on analyzing the soils of Maine, that soils containing the greatest quantity of lime did not produce the largest crops of wheat.

It is a singular fact, admitted by all the lime advocates, that lime, spread on the surface of soils that are based on limestone rock, *does more service than on soils without such basis*. It may be inferred from this that the more lime there is the better is the soil. Is this the theory of our friend?

We have lands here that would be improved by spreading 100 casks of sand on an acre. We have peat bogs that are more benefitted by one load of common gravel than by 100 loads of lime. Mixtures of different kinds of soil are generally useful; and we much incline to think that many who have been so much delighted with the advantages they have derived, from spreading a hundred casks of lime on an acre of their land, will find that 100 casks of sand, well spread, well mixed, and well tended, with a view to a premium crop, will help them as much as the 100 casks of lime.

It is pretty evident that the writer of the above thinks very little of lime, either as a constituent of cultivated plants, or as a hastener of vegetable decomposition. We do not regard (as he intimates) "lime as *the most* important article which a farmer can procure for his fields;" but as one of *several* equally indispensable elements in all cultivated crops.

There are instances in which humic and other organic acids so abound as to arrest decomposition in swamp muck, and peat bogs. Draining and *liming* these hasten the rotting of the organic matter. We shall not dwell on this property in lime, for we understand the Ploughman as admitting that lime is useful in the way of correcting all acidity in soils.

When we say that "no other element has been so generally and successfully used as a fertilizer, both in this country and Europe, as lime," we do not intend to offset *it, or one element*, against fertilizers that contain from ten to fourteen elements, like "the excrements of horned cattle, horses, sheep, and hogs." We took especial pains to guard against such a mistake, by comparing lime "to the half of a pair of shears"—worthless without the other essential elements of plants. We know not how to express ourself in plainer terms.

What we said about the formation of bones in domestic animals without lime, is not met at all by the Ploughman. No animal can know whether grass, hay, or grain, contains bone earth or not; and if Providence permitted vegetables to grow without the elements out of which animals form their solid frames, it is obvious that a calf could have no more bones than a naked snail.—To prevent a catastrophe that would be alike fatal to all birds and mammalia, Nature will not organize the seeds of plants like wheat, corn, and flax, no farther than the soil contains *phosphates* in an available form. Neither can timothy, clover, or red top be grown to perfect maturity without some lime, as well as other minerals.

Nothing is more common than for drift overlying lime rock to lack available lime. The loose earthy matter drifted on to rock, is made up of the debris of sand stone, and other rocks which contained little or no lime. Beside this cause of deficiency, this mineral readily sinks down into the sub-soil on tilled land; and hence is often deficient in surface soils that abound in lime stones which are hard and yield slowly to the action of the elements. If they are *soft*, as are most of the Onondaga limestones, (which are remarkable for yielding great crops of wheat,) there will be no lack of available lime in the earth.

As to using "100 casks of sand on peat bogs," we have seen both sand and gravel applied to such land with signal benefit. Nevertheless, after peat meadows are well drained, as they should be, our personal observation, as well as reading, lead us to believe that lime with sand is much better than to apply the latter alone.

Our friend observes truly "mixtures of different kinds of soils are generally useful;" and why? Because a wheat, corn, timothy, or potato plant, when ripe and perfect in all its parts, is a most admirable *mixture;* and by mixing different kinds of soil together, the chances are greatly in favor of getting in the last compound, of several compounds, all the elements used in organizing the crop. Feed the latter to cows, sheep, pigs, horses, and men, and save all their excretions, and then you will have the raw material for making a second harvest.

To cure Hoven in Cattle.—Among the numerous recipes for curing hoven in Cattle, I have never seen published the following easy and simple method:—Melt an half pint of hogslard and an half pint of molasses together, and drench the animal with it. We have used it several times with invariable success; it is as speedy as sure. If you think the recipe worth publishing, it is at your service.

Yours truly, E. S. B.

Romulus, N. Y., 1847.

Potato Rot.—A farmer of this (Monroe) county has called to say to us, that the rot has attacked his potatoes which grow on new land that has borne but one crop (wheat.) The circumstance most worthy of record in this case is the fact that the potatoes near the woods are much more affected than those remote from the forest. The ground is quite moist generally over the field.

Hints for October.

It is of great importance to those who intend to follow corn with wheat, to do it early. It is quite a labor to remove a large field of corn preparatory to plowing, and we plant so close that it is impossible to sow between the rows as they do at the west on the prairies; therefore cut your corn by the roots, and make it into *stouts*, in straight and parallel rows; plow all but the three feet occupied by the *stouts*, and if you please, *snake* plow between them. Sow your wheat, and drag both ways, and the loss is but trifling. Remove the corn with a team at your leisure.

Dig Potatoes early. The rot is abroad. The first symptoms are rusty-colored rough spots, which only affect the skin, and soon corrodes the pulp, particularly in wet weather. If dug early and kept dry—entirely dry—it will extend no farther. Moisture and heat are the very elements of *eremacausis*, or vegetable decomposition. Dig in *dry weather*, and house or bury them in a *dry state*. If you have a dry sandy knoll, dig a hole 2 or 3 feet deep, run a pole over the center, and cover with boards and straw and a sufficiency of earth to prevent freezing. Cover the ends of the boards to prevent mice getting in.

Gather winter apples before any severe frosts, to prevent premature ripening in the barrels or bins. Apples that are intended for market, or for long keeping, must be carefully *hand picked*, and put into good tight barrels, well headed, and laid on their sides. Apples carefully picked and put into water-tight casks, and allowed to stand over winter, in any building sheltered from sun and rains, will open in May as fair as when barreled, notwithstanding freezing and thawing.

Cider is very much improved by putting a pint of mustard seed into each barrel; it fines beautifully and never gets hard.

Save your own seeds—cucumber, melons, lettuce, &c., &c. It will save a great deal of grumbling at seed men.

Fall plowing for spring crops is a very important item; but if your land is in June or other foul grasses, or if you have reason to apprehend the wire-worm, or grub, don't do it till the last minute before freezing up. In the first instance, if you plow too early, the grasses come up to see the state of things above ground and get a bit of fresh air, and never dream of going back again—and before winter your field is as green as before you plowed it. Secondly, the *larvæ* of all the troublesome insects descend to the roots and are perfectly at home again; but if plowed late, in cold weather, the insect is paralized and frozen, and makes its exit.

Keep cattle off from new meadows, as soon as the ground becomes wet and soft.

Begin to increase the feed of your hogs intended for fattening; shut them up in all of this month. Fallen apples, cooked with a little mill feed, or barley or corn meal, will push them ahead finely—and one week now, with good feed, good shelter, and dry beds, is worth a month in cold weather, particularly if they have a six rail fence for a pen, and the sky for a covering.

Wagon Shelvins.

The following kind of wagon shelvins I have used for 28 years, and believe them to be handier and better than any others I ever saw, and they are not a few.

I take two sills or side pieces 12 or 14 feet long, and 3½ inches thick by 6½ wide; I put three mortices through each of these sills, 6 inches wide and 1½ thick. Two of these mortices are about one foot from the end of each sill, the other in the middle; these should be near the bottom of the sills as they lay on the wagon bolster. Into these mortices in the sills are framed three cross pieces, and mortices through them slanting close to the sills, into which arms or upright pieces are fitted, resting on the sills to support them. These arms are raised or lowered just high enough to keep all the loading clear from the wheels. On these arms put two or three boards, and fasten them with nails or screws, so that in removing the shelvins from the wagon these sides are taken off separate from the bottom or sills.

Put one mortice, 3 or 4 inches wide, in the forward end of each sill. Into these mortices fit two upright pieces about 7 feet high, with two or three cross bars of a suitable length. This answers for a ladder for building a load against, for fastening lines, and for putting the fore end of the boom when binding is necessary.

Nath'l Smith.

Gorham, N. Y., 1847.

Vermont Farming.—The largest farm in Vermont is said to be that of Judge Meech, at Shelburn, eight miles south of Burlington. A correspondent who has been over it, says this year he will mow over 500 acres and cut 1000 tons of hay. He keeps 300 sheep, and has now 400 head of neat cattle. A few days ago he sold fat oxen enough to amount to the sum of $2460. He has also sold this season 1000 bushels of rye.

Crops in Wisconsin.—The Buffalo Commercial Advertiser says: "The Brig Giddings arrived here on Saturday with a cargo of 10,000 bushels of Wisconsin wheat of this year's crop, which for plumpness of berry and general appearance, exceeds anything ever before received from that quarter."

Recipes.—For drunkenness, drink cold water; for health, rise early; to be happy, be honest; to please all, mind your own business.

Nutrition of Corn Cobs.

Mr. Editor:—Allow me to inquire if there is any nourishment in the *cobs* of corn? It is a question too important to remain unsettled. For, on the one hand, many farmers, supposing that there must be some nutriment in the *cobs*, have their corn intended for feeding horses and neat cattle, ground in the *ear*. On the other hand, many, believing that the article possesses no nutritive property, throw away, or burn their cobs.

If then, you will please to bring a portion of cobs to the test of your *chemical labratory*, and give to the public the result of your experiment, whatever that result may be, you will in doing so, perform the service of a benefactor.

Canandaigua, 1847. A Subscriber.

Remarks.—A good analysis of cobs cannot be made at less than fifteen or twenty dollars. They contain however very little nutritive matter. It is because corn meal is very concentrated food and lacks due bulk to fill the stomach, that cob meal can be advantageously combined with it. An equal bulk of well cured and pulverised cornstalks would doubtless contain more nourishment than clear cobs.

Preparation of Seed Wheat.—By sieves of suitable size, the largest and best grain may be separated. By washing in water, light seeds of various kinds, and the lightest grain will swim, and may be skimmed off. By adding salt to the water, which will increase its specific gravity, old imperfect grains, and barley and oats will rise to the surface. Then it will be well to steep the seed a day or two in salt and water; after which add half a peck of fresh slaked lime to a bushel of grain, mix thoroughly, that every kernel may become coated with lime. Let it remain half a day, or night, after liming, and then sow.—*Ex. paper.*

Heavy Wool Operation.—William McKie, a heavy wool operator of Salem, N. Y., has very recently effected a cash sale of upwards of *three hundred thousand pounds* of crossed and pure Saxon wools, to the Middlesex company at Lowell, Mass., all of which was grown in the counties of Washington and Rensselaer. In addition to this, the company have purchased from other individuals, over a million and a half pounds of very superior wools, all of the present clip.

Agriculture, says Socrates, is an employment the most worthy the application of man, the most ancient and the most suitable to his nature; it is the common nurse of all persons, in every age and condition of life; it is a source of health, strength, plenty and riches; and of a thousand sober delights and honest pleasures. It is the mistress and school of sobriety, temperance, justice, religion, and in short, of all virtue, civil and military.

Hydraulics for Farmers.

BY C. N. BEMENT.

NUMBER III.

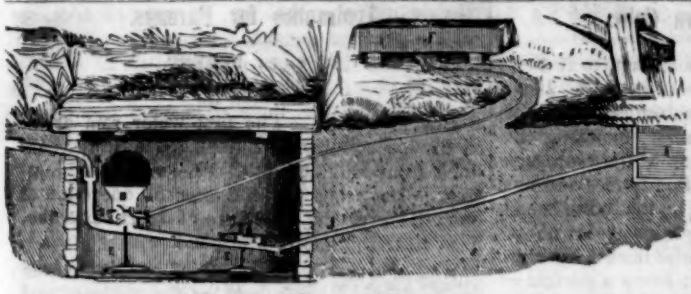
Benson's Ram.—The first water ram erected in this country was imported a few years since from England, at an expense of one hundred dollars; and put in successful operation at Fairy-Knowe, the residence of J. H. Latrobe, Esq., near Baltimore, Maryland.

Within a few years, some of our ingenious mechanics have taken hold of the subject, and they are now made for a trifling expense in comparison to the one imported by Mr. Latrobe. Among the earliest to improve the machine, I would name B. S. Benson, near Baltimore, Md., by which pure spring water may be forced up by a stream or brook of impure water.

The following is a representation of Benson's Patent Water-ram, for raising spring or other water for supplying farms, towns or vilages. By means of this ram, persons having a small branch or spring, that will afford one gallon per minute, with a small stream of impure water, can have a portion of the spring or any other water, raised to his house or barn, through a small leaden tube. This ram, says the inventor, will raise twice the water that any forcing pump will with the same water power, there being only three valves to keep it in motion, in place of the heavy water-weel and piston. This ram can be driven by branch water, and raise spring or branch water to the house at pleasure, by simply turning a cock, without any derangement of the ram, and is very simple, and easy to keep in order—the valves being faced with leather, and easy of access, can be replaced by any person, there being no other part that can wear.

This ram differs from most others, in having three valves, and a passage for spring water at the head.

Description.—V is an impetus-valve in chamber A, opening inwards; when open, permits the spring water to flow from resorvoir N, through valve C, and driving the branch water out of the end of the pipe D, that having acted as a piston in the last stroke; also permitting the branch water to flow from reservoir I, through the pipe J, and passing through the opening of the impetus-valve V, with increasing velocity, closes the valve; thus suddenly shutting off the escape of water. The ram pipe J, being fifty feet long, and six feet fall, filled with water, being nearly an uncompressed fluid, exerts its force against the columns of spring water in pipe D, as a piston, forcing it into chamber B, and closing valve C, driving it up through the air chamber valve B—the air chamber being supplied with air for a spring, receives the water, and gradually presses it up through pipe P, to the required height. When the water in the long ram



Benson's Ram. (Figure 5.)

pipe has spent its power, the superior height of water in pipe P causes the water in pipe J to recoil, and a small portion to repass the valve, and drive the water back in pipe J, though in a rising position, continues to flow a short time after the air chamber valve has closed and opened, and shut by the ordinary action of the machine. Thus, when the flow of the water through D is suddenly stopped by the valve E, a perfect vacuum is produced immediately below the air-chamber, by the recoil of the water, at which instant the small valve opens, and a portion of air enters and supplies that which the water absorbs.

Strode's Pneumato Hydraulic Engine.—Since the foregoing was written, I have received the following description of an improvement on the hydraulic ram. It is the invention of Mr. Joseph C. Strode, of East Bradford, Chester co., Penn.

"I have as yet," says Mr. Strode, "made only three different sized machines, excepting the model which I left in the Patent office, which is of glass, and a brass one of the same size, which is now in the Franklin Institute, Philadelphia. The latter is an operating model: its linear dimensions have a ratio to this cut, fig. 6, of about 32 to 7. This model, under a head of 5½ feet, with a driving pipe about 15 feet long, ⅜ inch calibre, forced through a ¼ inch pipe 1.8 lbs. of water, 40 feet high, in one minute, which is about 324 gallons, or 10 2-7 barrels in 24 hours. The three sizes above mentioned have a ratio to the aforesaid model of 3, 2½, and 2, in their linear dimensions. The largest of these is calculated to work with a 2 inch driving pipe, but will work very well with 1½ inch. These machines will work under all heads, where they have yet been tried with driving pipes of various lengths. I have not yet made a sufficient number of experiments to determine what the length of driving pipes of given calibre, under a given head, to force water to a given elevation, should be so as to produce a maximum per centage, nor what the length should be to force up a maximum amount, without regard to per centage; but I am well satisfied that they do not exist contemporaneously. The quantity of water used, and of that forced up may be varied by giving the outlet valve a longer or shorter stroke, by which the number of strokes in a given time is diminished or increased; and in each individual case there will be found to be a certain number of strokes, that will cause the machine to raise the most water of which it is capable, without regard to the quantity it uses to produce this effect; but when it is desirable that the quantity of water used shall raise the most water possible, then the number of strokes must be regulated to produce this effect."

"I give you one solitary experiment that was made with my largest machine, to produce the former of these effects. It worked under a head of 12 feet; the driving pipe was 1½ inch calibre, 46 feet long. By using 135 pounds of water per minute, 20 pounds, (which is 114 2-7 barrels in 24 hours,) were forced through a ½ inch pipe 60 feet high in the same time. The machine during this time made about 32 strokes, which was the right number, with this length of driving pipe and the attending circumstances, to force up the most water, without economising the water used. It is altogether likely, as the length of this pipe was taken at hazard, that some other length, in the same situation would have forced up more in its maximum operation. You will perceive that the above experiment gives for the machine a little above 74 per cent. By increasing the number of strokes to 40, about 75 per cent was obtained; but the quantity raised was diminished a little, and the quantity used was diminished in a little greater ratio."

The following specification is taken from the Journal of the Franklin Institute:

"The nature of my invention and improvement consists in making use of a column of condensed air between the propelling fluid and the fluid that is to be raised; said air being condensed in a pyramidal chamber, by means of the momentum of a descending column of water—the chamber having a communication, by a small opening at its top, with another chamber, into which the spring water or fluid to be raised is introduced, called the spring water chambers, and upon which the condensed air in the first named chamber is made to act, causing said fluid to rise through a tube placed in the spring water chamber, (open at its lower end, and closed alternately at its upper end, by means of a valve,) into a large air vessel or receiver, of the usual form and construction, being conducted thence to its place of destination by pipes, or hose, in the usual manner.

Fig. 6 is a longitudinal section. Fig. 7 is a transverse section. Fig. 8 is a perspective view.

Similar letters in the several figures refer to corresponding parts.

Fig. 6.

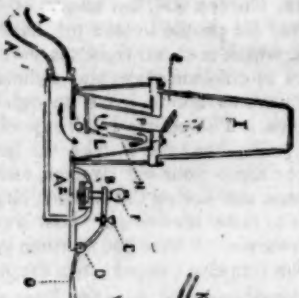


Fig. 7.

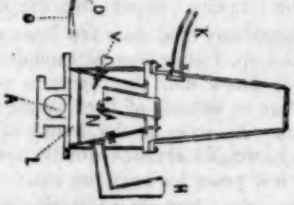
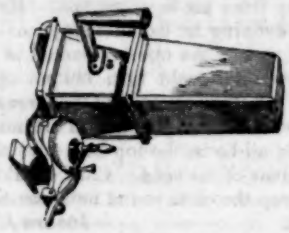


Fig. 8.



Stroud's Pneumato Engine.

A is the main pipe for conducting the propelling water from the head, or reservoir, to the pyramidal air-chamber. The pipe descends below the level of that portion of it which connects with the air chamber just before it reaches the said chamber, and then ascends in a curved line to it, forming a curved bend in the pipe, as at A', for the purpose of preventing the air received at the valve B, during the time in which the vacuum is produced in the air and water chamber, as hereafter described from filling the pipe A, as the air will not descend at said bend in the tube, so that the surplus of said air, after having filled the condensing chamber L, may be carried off by the current of water through the valve B.

The pipe A is enlarged below the air chamber L, as at A2, and has an opening O into the air chamber L, through which the water passes when the valve B is closed.

B is a valve attached to a curved, vibrating lever C, turning on gudgeons D, in boxes, as its fulcrum, having a set screw E, for regulating the descent of the valve, and a counter balance F, for adjusting the valve. When this valve B is down, as shown in fig. 7, the water from the head flows through the opening, which it closes; when it is up, as shown in fig. 6, the water rises into the pyramidal chamber L, through the opening O, and condeses the air therein.

H is a pipe for conveying the spring water to the spring water chamber. I is an air chamber into which the water is forced. J is the valve for holding it. K is a pipe, or hose, for conveying the water to its place of destination. The above named parts, lettered from A to K, inclusive, are made and operated in the usual manner. The improvements are as follows:

L is a pyramidal chamber, into which air is admitted through the valve B, when it descends by the pressure of the external air, to supply the partial vacuum created in the pipe A, and chambers L and N.

This pyramidal chamber has a communication, by a small opening M, at the top, with another chamber, N, called the spring or pure water chamber; through which opening M, the air, so condensed, is forced, and presses on the spring or other water, introduced into the same through the pipe H, by which pressure the water in said spring water chamber is forced upward through a tube P, reaching to near the bottom of said chamber N, through the valve J, into the air chamber I; said valve being represented as open in fig. 6, and as closed in fig. 7.

To raise water with this machine, open the valve B, the water, which is now in motion in the pipe A, will pass through the opening O, into the pyramidal condensing chamber L, and condense the air the same as before; the condensed air will force the spring water up the tube P, (which had entered through the pipe H, during the continuance of the partial vacuum above spoken of,) into the chamber I, and condense the air therein, until its density is equal to that in the condensing chambers L and N, below. At this time the spring water will cease to flow into the air chamber I, the valve J closes, and the air in the chambers I, L and N commences expanding, that in the lower chambers, L and N, giving motion to the propelling fluid and driving it backward, producing a partial vacuum in the machine, and the air in the upper chamber I, forcing the spring water to its place of destination. The said partial vacuum in the machine, caused by the reaction of the machine, as aforesaid, and the pressure of the external atmosphere on the valve B, will cause it to open again. The water from the head then flows through this valve with an accelerating movement, until it has acquired that degree of velocity as to cause the valve to close. The water having no longer any vent through the valve B, passes through the opening O, into the pyramidal air chamber L, and repeats the operation above mentioned, successively.

In this manner the operation will continue as long as the machine remains in order, and there is a head of water to propel it. The valve V is for the purpose of supplying the chamber I with air, by admitting said air into the tube P. The said air is admitted during the time that the partial vacuum above mentioned takes place. The

air thus introduced into the tube P, ascends to the top of the same, and is forced into the chamber I, at the next stroke of the machine; said valve V is represented open in fig. 7, and may be closed or regulated by screwing the thumb-screw V.

The principal advantages this machine possesses over other machines are:

1st. In case of forcing up pure water by the propelling power of a running stream of water less pure, there is no possibility of the impure water mixing with the pure, there being at that time a column of condensed air between the two waters.

2d. The water being forced into the upper chamber I, by the condensation of air in the lower chamber, the valve J opens more slowly than when water alone is made the propelling medium, and also shuts more slowly, thereby preventing the water from escaping back through the valve J, after it is forced up; the valve J being nearly closed when the water ceases to flow upward into the chamber I. This advantage, upon trial, is found to be of considerable importance, enabling the machine thus operated, to force with a given quantity of water, several barrels more of water per day than it would otherwise do.

3d. There being no valve between the condensed air in the lower chamber and the driving water, or at the opening O, said air is permitted to act a longer time in forcing back said driving water, and thereby making a more complete vacuum than in other machines, and rendering useless the spring for opening the outlet valve B, as used in several machines.

It is not necessary that the spring water chamber N, and the air chamber L, should be enclosed by the same envelope, but they may form separate chambers, and they may be arranged in any convenient way or manner most acceptable to the constructor, provided that the capacity of the air chamber does not exceed a due ratio between the propelling power and the water to be raised.

Clearing Land.

Mr. Moore:—Enclosed I send you $1, for which I wish you to credit me for the present and next volume of the Farmer.

Will you, or some of your correspondents who have had experience in the business, give us the best method of clearing land? Shall we chop in the winter, and clear off the next summer—or let it lay over, or girdle and let the timber stand until it is dead? Shall we gather our ashes and sell them, or spread them evenly over the land? Yours, H. Bristol.

Mason, Mich., 1847.

We have over a thousand subscribers in Michigan, many of whom are able, from experience, to answer the above properly. Who will do so?

Taking Honey from Hives.

Mr. Editor:—The season of the year has arrived for people to take the honey from their bees, which is taken from the various improved boxes in different ways and sometimes in such quantities as not to leave enough to winter the swarms. The course I have pursued this last few years, has been to take the honey from the two or three year old swarms, and the weakest swarms, and saving the earliest, largest, and heaviest to raise bees from. Last year I wintered six swarms. I have had fourteen swarms out this season; twelve I saved; two the heat drove off.

Should any read these few lines who have bees to take up, I hope they will not do as a man who I once knew did, that came in possession of a number of swarms of bees by the death of a relation. As soon as the honey of harvest was past, he would kill the bees of the heaviest swarms; in a few years his bees run out.

One of my humane neighbors, took 300 lbs. of honey from his bees last fall. He told me on a cool evening he would take two swarms into a dark room; the one he wanted to take the honey from he would turn bottom uppermost, placing the other on top, and then wrap a cloth round where the boxes join and in the morning the bees would all be in the top box, and thus he saved the lives of his bees. Care should be taken not to wrap the cloth round too close to suffocate the bees. Joseph Carpenter.

Prairieville, W. T., 1847.

Mr. Editor:—Two years ago my cow (I kept but one) was taken suddenly with a stoppage in one of her teats; so bad that most of the time it was impossible to get a stream from it, and I was obliged to fix a tube to get the milk out. At first, the milk was good for ought that I could see, but soon became bad. My neighbors said it was the "garget in the bag." I gave her garget root, through the summer and fall, but without material benefit to the milk, or in milking. The next spring I commenced feeding garget root before she came in, and had no further trouble from it, except that that part of the bag was smaller, and gave less milk.—This spring the milk in that part of the bag did not get good as soon as the others, but milks as easy, and the milk appears to be good, except that it is thinner. I have set it; and the cream, and milk after the cream is taken off, appear just like other cream and milk.

What caused the stoppage without injuring the milk?—why that part of the bag grew smaller?—and why the milk is thinner without appearing bad?—are questions which, if some of your numerous readers will answer, they will greatly oblige a subscriber and

Portage, June, 1847. Mechanic.

Will some correspondent answer the above?

The Genesee Farmer.

Mr. Editor:—I wish to say a word or two in regard to the "Genesee Farmer." I really wonder why more of the farming population do not take the paper. Many will spend three or four times the price of it on some public occasion, and return home "nothing better," but often "rather the worse," and yet think they cannot afford to take your paper. Others think their own experience better than the notions of theorists. Others again think, that in regard to farming "there is nothing like the good old way." And others still are not willing to be enlightened; &c. &c. I imagine however that many more would take the paper, if it could be thrown in their way. One thing is certain; unless the present generation shall begin to read, the next will have both to read and labor, or suffer.

I am not a farmer, but I would uot be without the paper for many times its value. There is no better "kitchen garden" in this vicinity than mine, and yet my ground has not been regularlay manured for years; although by the aid of your paper I am able to enrich it in some way, with marterials that most of my neighbors throw away. Every paper furnishes me with hints by which I can profit. Thanks to the "Farmer" for these hints.

One who is willing to Learn from the Experience of Others.

Monroe County, 1847.

Premium Bee-Hives.

Mr. Editor:—Bee-hives "is the subject of my story;" but should I digress occasionally, I trust you will allow that the fault is *at least* pardonable. If I am somewhat *severe*, it will be nothing more than, in my judgment, the circumstances of the case demand. In the first place, then, a word in relation to Agricultural *Fairs*. Laying aside the constitutionality, I would like to ask, is it honorable, is it just, is it even *fair*, that a State Society should award premiums to citizens of foreign States, while the present principle of distributing awards to our *own* citizens is exciting the indignation and disgust of many worthy men? Were we to judge of men's *motives* from their *acts*, what opinion are we to form *of*, or what confidence to place *in*, committees who are ever ready to bestow a prize upon the wealthy and influential Mr. ——, for best breeding Mare, when the *fact* is, the animal is *ten* years old and has never had a colt?—while, at the same time, the poor man, whose influence is limited to his own immediate neighborhood, not knowing the importance of securing the services of some pettifogging friend, brings forward his noble animal with the proof at her side, and has to return to his home the wiser for having learned that it is "Money makes the mare go."

This, Mr. Editor, is no flight of the imagination—no fancied grievance—as I am credibly informed a like case actually occurred in our own county. But we set out to speak of Bee-hives; very well at the Fair at Auburn, in 1846, the first preference was given to an *article*, (I think no sensible man will hardly call it a Hive,) from *Vermont*—while the *second* was given to Mr. Kelsey's "only one of real value and utility," and the residue were deemed unworthy the attention of the public. (Wonderful! wise! committee!! No doubt they are the very *identical* persons with whom *all* knowledge is to die!) Where, let me ask, was the Hive for which a *diploma* was awarded in 1845? Did the committee not *see* it? or have the inventions of the past year so far *eclipsed* it as to render it unworthy our attention? I would like to ask that *apiarian committee*, what are the qualities most essential in a Bee-hive of "real value and utility." We of Monroe county are inclined to believe that the Hive which last year was deemed worthy a *diploma*, and which "combines *all* the advantages of former improvements, with some *valuable qualifications* for ventilation, *removing old comb*, dividing swarms, and preventing the depredations of the bee-moth,—the whole under the *entire control* of the operator,"—is one which is at least worthy of public *notice*. But that *Vermont* Pyramid, which no one will venture to say is well adapted to the multiplying of colonies, the preventing the ravages of the bee-moth and the robber; yet, from its mathematical *figure* and mechanical *construction* so far captivated the committee, that it was allowed to bear off the palm, much to the disappointment of experienced bee culturists.

And now, Mr. Editor, we will notice the *second* and *last* regarded worthy our attention by that wise committee; or in other words, Mr. Kelsey's "only one of real value and utility." And what are the merits claimed for this wonderful invention? Let Mr. Kelsey answer for himself:

First, "The bees are easily hived." Now can any one be found so *silly* as to argue that the same cannot be done by numerous patent hives, and even with the old box and straw hives?

Second—"It never becomes necessary to kill off the swarms." If this be a newly discovered principle, or even first applied to Bee-hives by Mr. Kelsey, it is for me yet to learn.

Third—"Honey can at all times be taken away when it can be spared by the swarms." Strange as it may appear, this principle has been successfully applied by Dr. O. Reynolds and others, long before Mr. Kelsey secured a patent for his "only one of real value and utility."

Fourth—"Young swarms can be taken away at the proper period and put into other hives." This principle has been practiced by Dr. O. Reynolds with great success for two years, and by others for even a longer period.

Fifth—"The swarms are entirely protected from robbery by neighboring bees." This principle depends for success as much upon the care of the apiarian as upon the construction of the Hive.

Sixth—"The eggs or embryo of the bee-moth, or miller, can not *hatch* or *mature* around these hives." This, Mr. Editor, is to me a *stumper*. I think an apiarian will have to divest himself of his experience at least, to swallow so gross an absurdity. No observing man can have kept bees for one year even, without having learned that the miller will enter wherever there is a passage for the bees, and once in the hive they deposite their eggs at pleasure in every waxen crevice, where in due time a worm is brought forth to annoy, and if not removed, to destroy the bees.—The idea that a *zinc plate* will prevent the ravages of the moth, is too absurd to publish to the world. I am fully satisfied from experience and careful observation, that injuries from the moth can only be prevented by closing the hive when the bees have ceased their labor for the day.—The alternating principle of Mr. Kelsey's hive is such that honey taken for use will be more or less mingled with brood comb.

And now, Mr. Editor, notwithstanding a wise (!) committee has said that the Vermont Pyramid, and Mr. Kelsey's "only one of real value and utility," are the hives, and the *only* hives worthy our attention; yet I can say, and from experience too, that "Dr. O. Reynolds' Non-Swarming and Dividing Bee-Hive," has with me proved itself well worth the attention of the public in general, and of Bee culturists in particular.

I remain, sir, your humble subscriber,
Webster, N. Y., 1847. A. G. Melvin.

Remarks.—The above communication has been on hand nearly a year. In publishing it, we must dissent from the views of the writer relative to Agricultural Societies. The fact that one man has been deprived of a premium on his horse or bee-hive—by some unintentional error or oversight of a committee—is hardly a sufficient reason for condemning both State and County Societies and their committees. We express no opinion as to the comparative *merits* of the hives mentioned by friend Melvin, not having examined all of them.

Experiments in Wheat Culture.---Hessian Fly.

Mr. Editor:—Last year I told you I had tried experiments with unleached ashes at the rate of 72 bushels, salt five bushels, and lime from 50 to 80 bushels per acre. I saw no difference in the wheat from the ashes; the salt was a decided improvement, so much so that I shall sow about fifty barrels this season. Part I shall reserve until early in the spring, and see if there is any difference from that sown in the fall; and a few lands in each field I shall not salt, to see if the experiment holds good another season. That salted was at least four days earlier than that not salted, and a much heavier crop. The hurry of harvesting prevented me from trying, from actual measurement, how much it yielded more than an equal quantity of land adjoining. The field I limed was very much winter killed; still that with 80 bushels to the acre, was decidedly best.

Now for the Hessian fly. In your last number, page 205, you say—"As the Hessian fly lives only some 10 or 15 days during the last weeks in September or the first of October, if no wheat was up, and prepared as a nidus wherein to deposit its eggs, very few, if any, Hessian flies would be found in the spring."

Now the late sown wheat is often much more hurt with the fly than early sown; farmers of experience will tell you so. For instance, in 1845, I sowed a field on the 14th and 15th of September; my neighbor sowed one adjoining late in October, so late that it was barely up when winter set in. Mine was a very good crop—his was consumed by the fly, so that I do not suppose he got five bushels to the acre.—Our land was of the same quality, and divided by post and board fence. *When did the fly get in his wheat?*

Another query to solve. I exchanged seed wheat with a Mr. Rees, of Clyde, Wayne Co., in 1845. I sowed it on half of a 11 acre field, and on the same day sowed the other half with other wheat, (Soule's wheat.) That which I obtained from Mr. Rees came up yellow and sickly, while the other came up green and healthy; they continued so all the fall. I examined it, and found that from Clyde alive with the fly, and none in the other; and while that part sown with seed from Clyde gave only 12½ bushels per acre, my whole crop gave within a fraction of 31 bushels per acre—and I was satisfied that the soil in the part of the field on which the Clyde wheat was sown was as good as any of my other fields. *Now, where or how did the fly come into the Clyde wheat, if it did not get in the kernels of seed?* And if the fly only lives a short time in September or October, how does it come that many fields of barley have been destroyed by it, when barley is sown the end of April or beginning of May, and harvested in July or early in August. Now, when farmers see such things, and Editors tell them the fly only lives a few weeks in the end of September or first of October, they may well say the men who write for papers know nothing about it. I believe that the eggs of the fly are deposited in the seed before cutting. From experience I have always found that wheat that was early ripe or the crop raised from it, was seldom hurt with the fly.

Yours respectfully,
John Johnston.

Near Geneva, Sept., 1847.

We thank Mr. Johnston for the above interesting letter. He seems to have overlooked the important fact stated by us that, the Hessian fly produces two generations in a year; and that the one which is at maturity in the spring does the principal injury alike to late and early sown winter grain and spring crops. It is to avoid producing a spring crop of Hessian flies that we advise late seeding, not by one or two farmers, but by all wheat growers where this insect prevails. We ask Mr. J. to review his comments on our text, a part of which is in these words: "One man may raise flies enough on a *twenty acre* field, sown in the first week of September, to destroy half the grain in a whole township the spring and summer following."

The fly whose larvæ are sown with the seed is the *cecidomyia tritici;* while the Hessian fly of which we spoke is the *cecidomyia destructor.* Friend J. has confounded the two—one attacks the stem near its roots, and the other the heads of the wheat plant.

The New Settlements, vs. the Old.

I am glad to see another Richmond in the field, tilting a lance in favor of emigrating to new lands in the west. J. W. Falley does not answer my query by a case in point. He however makes out a very good one; and I am under no temptation to give the converse of his picture, as I feel certain that he has it, in his own neighborhood, in full *relief* before him—else why is it that the newspapers there give such an array in their columns of Sheriff's sales and Mortgage advertisements.

But friend Falley only reiterates that which I before asserted, to wit: That Michigan had made the transition from log house simplicity, to the age of orange peel and paint, with a magical celerity heretofore unknown in the annals of new States. Is he not a little illiberal, when he says that I "do not understand the character of Michigan's first settlers!" Let any man ride through this county and see the great breadth of smooth half tilled fields—the roofless decayed log houses—the large but sparsely scattered farm mansions—methinks he will understand that the bone and muscle which had made and fenced these

clearings, had gone to Michigan or some where west, to clear, and, fence, and toil anew. Our impulsive young men are the salt of that earth on which they build their cabins; their industry, enterprise, and enthusiasm works out a problem in our domestic economy, which Diogenes in his tub never dreamed of; for his philosophy embraced ease, not action.

I might go farther, and say that the first settlers of Michigan gave an immediate impress of civilization to the country and the age, which no other new State can boast; yet I still contend that the alluvial plains, and still alluvial hills, of Western New York, should not suffer a diminution of population, in order that such a consummation may be attained in a sister State. Instead of that consolidation here, which adds farm to farm, as if to increase the domain of nakedness, I would rather see a continual sub-division and improvement of the soil by the farmer's sons, until something near the hundredth part of its maximum yield was attained, from the arable surface. Then the farmer's wife would not have to go a thousand miles to sympathize in the joys, and sorrows, of her children. Then the neat cottage with its shrubbery, its clambering vines, its garden, and its little highly cultivated fields, would give to the eye the impress of that thrift and good taste, which is the reward of industry in an old country; certainly more comfortable and picturesque, if not more substantial and imposing, than the great wheat fields, and coarse improvements, of the new west.

But I hope to hear more from J. W. Falley about Michigan; he tells the truth well. I only ask him to tell the whole truth; give us the shady, as well as the bright side of the picture. Speak of the singing birds if you please, but don't neglect the musketoes. S. W.

Seneca County, N. Y., 1847.

Comparative Profits of Agriculture, Trade and Commerce.

In regard to the relative advantages and actual profit of agriculture and trade, a considerable difference of opinion exists among those having the best means of information on these subjects. It has been asserted on strong grounds of confidence, at least probable reasons of belief, that of the whole number of men who have been concerned in trade or commerce in the United States, at least two-thirds have become bankrupt or insolvent, and some assert a greater proportion. Those also are not wanting, who confidently affirm, that agriculture is the best and most profitable business, and will often afford a profit of 15, 18, and 20 per cent. on the capital established in it. There is great reason, however, to doubt the truth or correctness of this assertion. According to the statement relative to the farm of Mr. Chadsby, at Wickford, Rhode Island, as contained in the Albany Cultivator for June, in which the produce and the expenses of the same are detailed, it would appear that although in the actual cultivation of the farm, he cleared 20 per cent., yet, taking into view the cost of subsistence of the family, even on a moderate estimate of $400 or $500 per annum, there will remain only a small profit from the farm.

Perhaps, taking all things into view, the profits of trade and commerce will, on the average, considerably exceed that of farming, when managed by merchants or traders of experience, skill, and judgment, and on an adequate capital.—Sometimes a profit of 20 and even 25 per cent. has been realized; but this is seldom the case. A rate of 8 or 10 per cent. is considered to be a good profit on the average of the business when fairly conducted. But taking into view all the various circumstances connected with the business, the certain and great expenses of a commercial establishment, the rent of the store, payment of clerks and other labor, fuel, stationary, &c.,—all which will probably vary in amount from 1,000 to 2,000 or 3,000 dollars, according to circumstances—the great cost of house-keeping, or the subsistence of the family in its various details—which also will vary from 400 or 500 up to 1,000, 2,000, 3,000, or 4,000 dollars, according to the circumstances, condition, or disposition of the man, or his family—and but few men in trade in our large cities can live comfortably (with their families) on less than 700, 800, or 1,000 dollars per year: the danger of bad debts, loss from goods of inferior quality, those damaged, or otherwise not suited to the markets, and perhaps more than all, the great risks of loans from the banks, especially in times of commercial revulsions, when it is their custom to contract their loans at the very period most wanted by the small trader—we have reason to believe, that a farmer, having the experience, skill, and caution to manage his farm properly, and not to live beyond his income, but who will be contented with a comfortable subsistence and a moderate income, or 2 or 3 per cent., (and under favorable circumstances perhaps 8 or 10 per cent.,) he will find the business of agriculture better on the whole than trade or commerce.

Wm. Jennison.

Boston, Mass., July, 1847.

Wheat Crop of Michigan.—The wheat crop of Michigan, for the present year, as estimated by a gentleman now preparing statistics for the Patent Office in Washington, will not fall short of 8,000,000 bushels, nor exceed 10,000,000 bushels. The quality of the grain this year is superior in every respect to the crop of last year.

Col. Noble, of Cincinnati, exhibited at a late meeting of the Horticultural Society, a specimen of Indian corn bearing twelve ears on a single stalk.

Gen. Harmon's Merino Buck, "King of Vermont."

Above we give an engraving of a Merino Buck, owned by Gen. R. Harmon, of Wheatland, in this county. Gen. H. has quite a flock of Spanish Merinos—among them many fine Paular bucks. They are well worthy an examination by those wishing to improve their stock, without the trouble and expense of importing from abroad.

Gen. Harmon writes us as follows relative to the animal represented by the engraving:—

King of Vermont was got by the celebrated buck "Fortune," owned by S. W. Jewett, Esq., of Weybridge, Vermont; his dam was a pure blood Merino, owned by the same. The accompanying drawing was taken when he was nine months old. When thirteen months old King of Vermont sheared *nine pounds of clean washed wool.* His weight at that time, with the fleece on, was 94 pounds; at the next shearing his weight was 126 lbs., and he sheared 9 lbs. and 2 ounces of well washed wool. *King of Vermont* has proved himself an excellent stock getter, as the superior stock of lambs I have got by him will show.

Reports from almost every section of the Union, speak of the fine promise of the corn crop. A much greater quantity has been planted this season than any previous year, and the harvest must be immense—altogether beyond comparison with any former crop.

Fair of the State Agricultural Society.

A lack of room prevents our offering any extended comments on the leading features of the recent Fair at Saratoga. Last year $4,400 was taken for tickets and membership at Auburn; this year, the receipts were $700 less. As a whole, the exhibition was meagre. There was a good display of horses. The Vermont stallion, "Black Hawk," was much admired. The Morgan Horse and his stock attracted much attention. There was a fair show of Devon Cattle; a few fine Durhams and scarcely a half dozen Herefords. In Sheep and Swine, we have never seen so few competitors at any preceding State Fair. In Dairy Products the display was poorer still. The mechanics of Troy and Albany added largely to the interest of the occasion by a splendid exhibition of Stoves, Carriages, Harnesses, Trunks, Glass Ware, and Agricultural Implements. There were several machines for drilling wheat and other seed, some of which, we doubt not, will come into general use.

The operation of a "hydraulic ram," carried conviction to every mind that it is truly a valuable machine. We saw many things worthy of notice which we cannot even name in this number of the Farmer. Senator Dix was very happy in his brief eulogy of the lamented Silas Wright. There were a number of gentlemen of distinction from other States. Among them

was Ex-President Tyler, Prof. Hare, of Philadelphia, Hon. Ellsworth, Indiana, and Gov. Hill, Editor of the Farmer's Visitor, of New Hampshire.

The able and interesting address we publish elsewhere in this number. We shall endeavor to give the award of Premiums next month, a copy of which we have not yet received.

Monroe County Agricultural Fair.

The officers and friends of this Society have reason to congratulate themselves on the zeal and spirit with which the farmers of the county turned out and competed for the numerous premiums. An equal display of Horses, Cattle, Sheep, and Swine, we have never seen at any previous Fair of the Society. The exhibition the second day, in connection with the Horticultural Society, was truly splendid. We have never seen so good a show of Fruit and garden vegetables in the State. This is saying a good deal, for the writer has probably attended more Fairs within the last five years than any other man in New York. The Editor of this journal delivered a short address to a crowded audience.

Jefferson County Fair.

We attended the recent Fair of the Jefferson County Agricultural Society, at Watertown. It is truly a *model* Society, which owns a permanent Hall 105 feet in length and 50 in width. Large as this building is, it could hold only about one-third of the farmers, their wives, sons and daughters, who attended the recent Festival. In many things they beat the Fair at Saratoga. Had we room, we should take pleasure in naming many things we saw, and in commending the zeal of the President and other officers of the Society in the cause of agricultural improvement.

The Editor's address is published in the Watertown newspapers. We are not certain whether it will do to give so much space to it in the Farmer or not. It is not often that we write out our remarks on such occasions.

Orleans County Fair.

We are informed by a gentleman who was present, that the late Fair of the Orleans County Agricultural Society, held at Albion, was numerously attended. He speaks of the exhibition as highly creditable to the Society and the farmers of Orleans. Every thing passed off spiritedly and pleasantly. We regret that we were unable to attend.

An English Clergyman, at Brussels, has invented a motive power, which promises to rival steam. It is founded on the compression of fluids. Eight pails of water it is computed, would be sufficient to carry a vessel to the East Indies.

To Correspondents.

Communications have been received, during the past month, from John Johnston, S. W., A Subscriber, H. Bristol, Nathaniel Smith, T. P., Jefferson Scott, *, R. P. Stevens, D. A. Ogden, N. Simons, S. D. Beers.

The publication of the Address delivered at the State Fair compels us to defer several communications intended for this number.

COLE'S AMERICAN VETERINARIAN, or Diseases of Domestic Animals, showing the Causes, Symptoms, and Remedies, and rules for restoring and preserving health by good management, with full directions for Training and Breeding. By S. W. Cole, Esq., one of the editors of the Boston Cultivator. Published by John P. Jewett & Co., Boston, and C. M. Saxton, New York.

The above is the title of a very useful work, a copy of which we have received from each of the publishers. It is replete with valuable matter to all persons who are breeders or owners of domestic animals, and worth ten times its cost to almost any farmer. We are informed that it has already had an extended sale. It is a neat volume of nearly 300 pages, bound in leather, and sold at 50 cents. We presume it can be obtained of booksellers generally throughout the country.

Livingston County Fair.

We learn from persons present that this banner county for noble stock fairly beat herself at its recent Cattle Show. We rejoice to see so many evidences of progressive improvement in all rural pursuits, in Western New York. Agriculture is rapidly rising in public esteem, and ere long Practical Science will achieve the most auspicious results. Let the labor of the Hands and the culture of the Intellect go together, and we shall soon possess a nation of Farmers such as the wise men of the last generation never dreamed of. Learning, science, and rural industry must rise or fall together in this Republic.

The next Fair is to be held at Mt. Morris.—The following gentlemen were elected officers for the ensuing year: John R. Murry, Jr., President; Samuel J. Mills, Secretary; and Henry Swan, Treasurer.

Agricultural Fairs, this Month.

Agricultural Fairs are to be held, the present month, as follows. From other counties in which Exhibitions will be held we have received no correct information relative to time, &c.

Cayuga County,	Auburn,	Oct. 6, 7.
Genesee "	Stafford,	Oct. 7, 8.
Ontario "	Canandaigua,	Oct. 12, 13.
Onondaga "	Syracuse,	Oct. 7, 8.
Seneca "	Ovid,	Oct. 14, 15.
Wayne "	Lyons,	Oct. 6, 7.
Yates "	Penn Yan,	Oct. 1.
Vernon Center,	Vernon Center,	Oct. 6.

FAIRS IN OTHER STATES AND CANADA.

Caledonia County, Vt.,	St. Johnsburg Plain,	Oct. 7.
Provincial Ag. Assoc'n,	Hamilton, C. W.,	Oct. 6, 7.

ADDRESS
OF THE LATE SILAS WRIGHT,

READ BEFORE THE STATE AGRICULTURAL SOCIETY, AT SARATOGA SPRINGS, ON THE 16TH OF SEPTEMBER, BY *JOHN A. DIX.* *

Mr. President, and Gentlemen of the State Agricultural Society:

Had it been my purpose to entertain you with an eulogium upon the great interests confided to your care, the Agriculture of the State, I should find myself forestalled by the exhibition which surrounds us, and which has pronounced that eulogy to the eye much more forcibly, impressively, elcquently than I could command language to pronounce it to the ear of this assembly.

Had I mistakenly proposed to address to you a discourse on agricultural production, this exhibition would have driven me from my purpose by the conviction that I am a backward and scarcely initiated scholar, standing in the midst of maslers, with the least instructed and experienced of whom it would be my duty to change places.

The agriculture of our state, far as it yet is from maturity and perfection, has already become an art, a science, a profession, in which he who would instruct, must be first himself instructed far beyond the advancement of him who now addresses you.

The pervading character of this great and vital interest, however—its intimate connection with the wants, comforts and interests of every man in every employment and calling in life, and its controlling relations to the commerce, manufactures, substantial independence and general health and prosperity of our whole people—present abundant subjects for contemplation upon occasions like this, without attempting to explore the depths or to define the principles of a science so profound, and to the uninitiated, so difficult, as is that of agriculture.

Agricultural production is the sub-stratum of the whole superstructure; the great element which spreads the sail and impels the car of commerce, moves the hands and turns the machinery of manufacture. The earth is the common mother of all, in whatever employment engaged, and the fruits gathered from its bosom are alike the indispensable nutriment and support of all. The productions of its surface and the treasures of its mines, are the material upon which the agriculturist, the merchant and the manufacturer are alike bestowed, and are the prize for which all alike toil.

The active stimulus which urges all forward, excites industry, awakens ingenuity, and brings out invention, is the prospect or the hope of a market for the productions of their labor. The farmer produces to sell—the merchant purchases to sell—and the manufacturer fabricates to sell. Self-consumption of their respective goods, although an indispansable necessity of life, is a mere incident in the mind impelled to acquisition. To gain that which is not produced or acquired, by the sale of that which is possessed, is the great struggle of laboring man.

Agricultural production is the first in order, the strongest in necessity, and the highest in usefulness, in this whole system of acquisition. The other branches stand upon it, and without it could not exist. Still it has been almost uniformly, as the whole history of our state and country will show, the most neglected. Apprenticeship, education, a specific course of systematic instruction, have been, time out of mind, considered an indispensable pre-requisite to a creditable or successful engagement in commercial or mechanical pursuits; while to know how to wield the axe, to hold the plow, and to swing the scythe, has been deemed sufficient to entitle the possessor of that knowledge to the first place and the highest wages in agricultural employment.

A simple principle of production and of trade, always practically applied to manufactures and commerce, that the best and cheapest article will command the market, and prove the most profitable to the producer and the seller, because more beneficial to the buyer and consumer, is but beginning to receive its application to agriculture. The merchant, who from a more extensive acquaintance with his occupation, a more attentive observation of the markets, better adapted means, and a more careful application of sound judgment, untiring energy and prudent industry, can buy the best and sell the cheapest, has always been seen to be the earliest and surest to accomplish the great object of his class, an independence for himself. So the mechanic, who, from a more thorough instruction in the principles and handicraft of his trade, or a more intense application of mind and judgment with labor, can improve the articles he fabricates, or the machinery and modes of their manufacture, and can thus produce the best and sell the cheapest, has always been seen to reach the same advantage over his competitors, with equal readiness and certainty; and that these results should follow these means and efforts, has been considered natural and unavoidable.

Still the agriculturist has been content to follow in the beaten track, to pursue the course his fathers have ever pursued, and to depend upon the earth, the seasons, good fortune, and providence for a crop, indulging the hope that high prices may compensate for diminished quantity or inferior quality. It has scarcely occurred to him that the study of the principles of his profession had anything to do with his success as a farmer, or that what he had demanded from his soils should be considered in connection with what he is able to do for them, and what he is about to ask them to perform. He has almost overlooked the vital fact, that his lands like his patient teams require to be fed to enable them to perform well, and especially has he neglected to consider that there is a like connection between the quantity and quality of the food they are to receive, and the service to be required from them. Ready, almost always, to the extent of their ability, to make advances for the purchase of more lands, how few of our farmers, in the comparison, are willing to make the necessary outlays for the profitable improvement of the lands they have?

These and kindred subjects, are beginning to occupy the minds of our farmers, and the debt they owe to this society for its efforts to awaken their attention to these important facts, and to supply useful and practical information in regard to them, is gradually receiving just appreciation, as the assemblage which surrounds us, and the exhibitions upon this ground most gratifyingly prove.

Many of our agriculturists are now vigorously commending the study of their soils, the adaptation of their measures to the soil and the crop, the natures of the plants they cultivate, the food they require, and the best methods of administering that food to produce health and vigor and fruit; and they are becoming convinced that to understand how to plow and sow and reap, is not the whole education of the farmer; but that it is quite as important to know what land is prepared for the plow, and what seed it will bring to the harvest worthy of the labors of the sickle. Experience is steadily proving that, by a due attention to these considerations, a better article, doubled in quantity, may be produced from the same acre of ground, with a small proportionate increase of labor and expense, and that the farmer who pursues this improved system of agriculture, can, like the merchant and mechanic referred to, enter the market with a better production, at a cheaper price, than his less enterprising competitor.

* Most of our readers are probably already apprised of the sudden demise of Gov. WRIGHT, at his residence in Canton, St. Lawrence county, on the 27th of August. This Address was completed the evening before his death, and read at the Exhibition by the Hon. John A. Dix. It treats mainly on the importance of a foreign market for the agricultural products of this country. To be complete, the author should have stated, in the same connection, the advantages of finishing at the earliest practicable period, the enlargement of the Erie Canal, that this foreign market may be reached at a smaller cost of transportation. Nor should he have omitted to point out the benefits of a reliable home market for the fruits of American rural industry. We shall not attempt to supply the omission.

This change in the agriculture of our state and country, opens to the mind reflections of the most cheering character. If carried out to its legitimate results, it promises a competition among our farmers, not to obtain the highest price for inferior productions, but to produce the most, the best, and the cheapest of the necessaries of human life. It promises agricultural prosperity, with cheap and good bread, furnished in abundance to all who will eat within the rule prescribed to fallen man in the sacred volume of the Divine law.

Steady resolution and persevering energy are requisite to carry forward these improvements to that degree of perfection dictated alike by interest and duty; and the stimulus of a steady and remunerating market will rouse that resolution and nerve that energy. Without this encouragement in prospect, few will persevere in making improvements which require close and constant mental application, as well as severe physical labor.—Agriculture will never be healthfully or profitably prosecuted by him whose controling object is his own consumption. The hope of gain is the motive power to human industry, and is as necessary to the farmer as to the merchant or manufacturer. All, who labor, are equally stimulated by the prospect of a market which is to remunerate them for their toil, and without this hope, neither mental activity, nor physical energy, will characterize their exertions. True it is that the farmers of our country, as a class, calculate less closely by the profits of their labor and capital, than men engaged in most other pursuits, and are content with lower rates of gain. The most of them own their farms, their stocks and farming implements, unincumbered by debt. Their business gives but an annual return. They live frugally, labor patiently and faithfully, and at the close of the year, its expenses are paid from its proceeds, the balance remaining, being accounted the profits of the year. Although a moderate sum, it produces contentment without a computation of the rate per cent. upon the capital invested, or the wages it will pay to the proprietor and the members of his family. The result is an advance in the great object of human labor, and, if not repaid, it is safe and certain. It is a surplus beyond the expenses of living, to be added to the estate, and may be repeated in each revolving year.

If, however, this surplus is left upon the hands of the farmer, in his own products, for which there is no market, his energies are paralyzed, his spirits sink, and he scarcely feels that the year has added to his gains—he sees little encouragement in toiling on to cultivate beyond his wants, productions which will not sell; and the chances are, that his farm is neglected, his husbandry becomes bad, and his gains, in fact, cease.

To continue a progressive state of improvement in agriculture, then, and to give energy and prosperity to this great and vital branch of human industry, a healthful and stable market becomes indispensable, and no object should more carefully occupy the attention of the farmers of the United States.

Deeply impressed with the conviction of this truth, benevolent minds have cherished the idea that a domestic market, to be influenced only by our own national policy, would be so far preferable, in stability and certainty, to the open market of the commercial world, as to have persuaded themselves that a sufficient market for our agricultural products, is thus attainable. It is not designed to discuss the soundness of the theory, where it can be reduced to practice; but only to inquire whether the state of this country, the condition of its society, and the tendency and inclination of its population, as to their industrial pursuits. are such at the present time, or can be expected to be such for generations yet to come, as to render it possible to consume within the country the surplus of the productions of our agriculture.

The theory of an exclusively domestic market for this great domestic interest, is certainly a very beautiful one, as a theory, and can scarcely fail to strike the mind favorably upon a first impression. Still, examination has produced differences of opinion between statesmen of equal intelligence and patriotism, as to its influence upon the happiness and prosperity of a country and its population. Any examination of this question would lead to a discussion properly considered political, if not partizan, and all such discussions it is my settled purpose to avoid, as inappropriate to the place and the occasion.

Apply these bright and brightening prospects to the almost boundless agricultural field of our country, with its varied and salubrious climate, its fresh and unbroken soils, its cheap lands and fee simple titles, and who can hope, if he would, to turn the inclinations of our people from this fair field of labor and of pleasure? Here, the toil which secures a certain independence, is sweetened by the constantly varying exhibitions of nature in her most lovely forms, and cheered by the most benignant manifestations of the wonderful power and goodness of nature's God. Cultivated by the resolute hands and enlightened minds of freemen, owners of the soil, properly educated as farmers, under a wise and just administration of a system of liberal public instruction, should, and will be, and aided by the researches of geology and chemistry, who can calculate the extent of the harvests to be gathered from this vast field of wisely directed human industry?

The present surplus of bread-stuffs of this country, could not have been presented in a more distinct and interesting aspect than during the present year. A famine in Europe, as wide-spread as it has been devastating and terrible, has made its demands upon American supplies, not simply to the extent of the ability of the suffering to purchase food, but in superadded appeals to American sympathy in favor of the destitute and starving. Every call upon our markets has been fully met, and the heart of Europe has been filled with warm and grateful responses to the benevolence of our country and our countrymen, and yet the avenues of commerce are filled with the productions of American agriculture. Surely, the consumption of this country is now equal to its agricultural productions.

If such is our surplus in the present limited extent and imperfect condition of our agriculture, can we hope that an exclusive domestic market is possible, to furnish a demand for its mature abundance? In this view of this great and growing interest, can we see a limit to the period, when the United States will present, in the commercial markets of the world, large surpluses of all the varieties of bread-stuffs, of beef, pork, butter, cheese, cotton, tobacco, and rice, beyond the consumption of our own country? And who, with the experience of the last few years before him, can doubt that the time is now at hand, when the two great staples of wool and hemp will be added to the list of exportations?

These considerations, and others of a kindred character, which time will not permit me to detail, seem to me, with unfeigned deference, to prove that the agriculture of the United States, for an indefinite period yet to come, must continue to yield annual supplies of our principal staples, far beyond any possible demand of the domestic market, and must therefore remain, as it now is and has ever been, an exporting interest. As such, it must have a direct concern in the foreign trade and commerce of the country, and in all the regulations of our own and of foreign governments which affect either, equal to its interest in a stable and adequate market.

If this conclusion be sound, then our farmers must surrender the idea of a domestic market to furnish the demand, and measure the value of their productions, and must prepare themselves to meet the competition of the commercial world in the markets of the commercial world, in the sale of the fruits of their labor. The marts of commerce must be their market, and the demand and supply which meet in those marts must govern their prices. The demand for home consumption, as an element in that market, must directly and deeply interest them, and should be carefully cultivated and encouraged, while all the other elements acting with it, and constituting together the demand of the market, should be studied

with equal care, and, so far as may be in their power, and consistent with other and paramount duties, should be cherished with equal care.

Does any one believe, that for generations yet to come, the agricultural operations of the United States are to be circumscribed within narrower comparative limits than the present; or that the agricultural productions of the country are to bear a less ratio to our population and consumption than they now do? I cannot suppose that any citizen, who has given his attention to the considerations which have been suggested, finds himself able to adopt either of these opinions. On the contrary, I think a fair examination must satisfy every mind that our agricultural surplus, for an indefinite future period, must increase much more rapidly than our population and the demand for domestic consumption. This I believe would be true without the efforts of associations, such as this, to improve our agriculture. The condition of the country, and the inclination and preference of our population for agricultural pursuits, would render this result unavoidable; and if this be so, when the impetus given to agricultural production by the improvements of the day—the individual and associated efforts constantly making to push forward these improvements with an accelerated movement—the mass of educated mind turned to scientific researches in aid of agricultural labor—the dawning of a systematic and universal agricultural education—and the immense bodies of cheap, and fresh, and fertile lands, which invite the application of an improved agriculture, are added to the account, who can measure the extent or duration of our agricultural surplus, or doubt the soundness of the conclusion, that the export trade must exercise a great influence upon the market for the agricultural productions of the country for a long series of years to come?

Such is the conclusion to which my mind is forced, from an examination of this subject, in its domestic aspect simply; but there is another now presented of vast magnitude and engrossing interest, and demanding alike from the citizen and the statesman of this republic, the most careful consideration. All will at once understand me as referring to the changes and promises of change in the policy of the principal commercial nations of the world, touching their trade in the productions of agriculture.

By a single step which was nothing less than commercial revolution, Great Britain practically made the change as to her trade, and subsequent events have clothed with appearance of a most super-human sagacity, the wisdom which thus prepared that country to meet the visitation of famine which has so soon followed without the additional evil of trampling down the systems of law to minister to the all-controlling necessities of hunger. Changes similar in character, and measurably equal in extent, though in many cases temporary in duration, have been adopted by several other European governments, under circumstances which render it very doubtful how soon, if ever, a return will be made to the former policy of a close trade in the necessaries of human life.

New markets of vast extent and incalculable value have thus been opened for our agricultural surplus, the durability and steadiness of which it is impossible yet to measure with certainty. It is in our power, however, to say that a great body of provocations to countervailing restrictive commercial relations, is now removed, in some instances permanently, and in others temporarily in form; and it would seem to be the part of wisdom, for the agriculture of this country, by furnishing these markets to the extent of the demand, with the best articles, at the fairest prices, to show to those countries, and heir respective governments, that reciprocal commercial regulations, if they offer no other and higher attractions, present to their people a safeguard against starvation.

Such is the connection, now, between our agriculture and export trade and foreign market; and these relations are to be extended and strengthened, rather than circumscribed and weakened, by our agricultural advances. The consumption of the country is far short of its production, and cannot become equal to it within any calculable period. On the contrary, the excess production is to increase with the increase of population and settlement, and the improvements in agriculture and agricultural education. These appear to me to be facts, arising from the condition of our country, and the tastes and inclinations of our people, fixed beyond the power of change, and to which theories and principles of political economy must be conformed, to be made practically applicable to us.

I simply propose to inquire as to a fact, which must control the application of theories and principles of political economy touching this point, to our country and its agricultural population, without raising any question as to the wisdom of the one, or the soundness of the other. Is the consumption of this country equal to its agricultural production, or can it become so within any calculable period of years? How is the fact? May I not inquire without offence, or transcending the limits I have prescribed for myself in the discussion? Can a fair examination scrupulously confined to this point, take a political bearing, or disturb a political feeling? It is certainly not my design to wound the feelings of any member of the Society, or of any citizen of the country, and I have convinced myself that I may make this inquiry, and express the conclusions of my own mind as to the result, without doing either. If I shall prove to be in error, it will be an error as to the fact inquired after, and not as the soundness of the principle in political economy dependent on the fact for its application, because as to the soundness of the principle, I attempt no discussion and offer no opinion. It will be an error as to the applicability of a theory to our country and not as to the wisdom or policy of the theory, when it can be practically applied, I studiously refrain from any expression, as inappropriate here. With the indulgence of the Society, I will inquire as to the fact.

Our country is very wide and very new. It embraces every variety of climate and soil, most favorable to agricultural pursuits. It produces already almost every agricultural staple, and the most important are the ordinary productions of extensive sections of the country, and are now sent to the markets in great abundance.

Yet our agriculture is in its infancy almost every where, and at its maturity no where. It is believed to be entirely safe to assume that there is not one single agricultural county in the whole Union, filled up in an agricultural sense—not one such county which has not yet land to be brought into cultivation, and much of which is to be materially improved, before it can be considered as having reached the measure of its capacity for production. If this be true of the best cultivated agricultural county in the Union, how vast is the proportion of those counties which have entire townships, and of the States which have not merely counties, but entire districts, yet wholly unpeopled and unreclaimed from the wilderness state.

When to this broad area of the agricultural field of our country, we add our immense territories, organized and unorganized, who can compute the agricultural capacities of the United States, or fix a limit to the period when our surplus agricultural productions will increase with increasing years and population? Compare the census of 1830 and 1840 with the map of the Union, and witness the increase of population in the new States, which are almost exclusively agricultural, and who can doubt the strong and resistless inclination of our people to this pursuit?

Connect with these considerations of extent of country, diversity of soils, varieties of climate, and partial and imperfect cultivation, the present agricultural prospects of this country. Witness the rapid advances of the last dozen years in the character of our cultivation, the quality and quantity of our productions from a given breadth of land, and the improvements of all the implements by which the labor of the farmer is assisted and applied. Mark the vast change in the current of educated mind of the country, in respect to this pursuit; the awakened attention to its high respectability as a profession, to its safety from hazards, to its healthfulness of mind and body, and to its productiveness. Listen to the calls for information, for education upon agricultural subjects, and to the demands that this education shall constitute a department in the great and all pervading system of our common school education, a subject at this moment receiving the especial attention, and being pressed forward by the renewed energies of this Society. Behold the numbers of professors, honored with the highest testimonials of learning conferred in our country, devoting their lives to geological and chemical researches calculated to evolve the laws of nature connected with agricultural production. Go into our colleges and institutions of learning, and count the young men toiling industriously

for their diplomas, to qualify themselves to become practical and successful farmers, already convinced that equally with the clerical, the legal, and the medical professions, that of agriculture requires a thorough and systematic education, and its successful practice the exercise of an active mind devoted to diligent study.

The American farmer, then while carefully studying, as he should not fail to do, the necessities, the wants and the tastes of all classes of consumers of his productions in his own country, must not limit his researches for a market within those narrow bounds. He must extend his observations along the avenues of commerce, as far as the commerce of his country extends, or can be extended, and instruct himself as to the necessities, and the wants and tastes of the consumers of agricultural productions in other countries. He must observe attentively the course of trade, and the causes calculated to exert a favorable or adverse influence upon it; watch closely the commercial policy of other countries, and guard vigilantly that of his own; accommodate his productions, as far as may be, to the probable demands upon the market, and understand how to prepare them for the particular market for which they are designed. Next to the production of the best article at the cheapest price, its presentation in the market in the best order and most inviting condition, is important to secure to the farmer a ready and remunerating market.

So long as our agricultural shall continue to be an exporting interest, these considerations, as second only to the science itself will demand the careful attention and study of our farmers, and in any well digested system of agricultural education, its connection with manufactures and the mechanic arts, with commerce, with the commercial policy of our own and other countries, and with the domestic and foreign markets, should hold a prominent place. A thorough and continued education in these collatteral, but highly necessary branches of knowledge to the farmer, will prove extensively useful to the American citizen, beyond their application to the production and sale of the fruits of his labor. They will qualify him the more safely and intelligently to discharge the duties of a freeman: and if called by his fellow-citizens to do so, the more beneficially to serve his State and country in legislative and other public trusts.

I hope I may offer another opinion in this connection, without giving offence, or trespass upon the proprieties of the place and occasion. It is that this education is the just and true connection between the agricultural, the commercial, and the manufacturing interests of our country, equally and impartially disseminated among the classes of citizens attached to each of these great branches of labor, would effectually put an end to the jealousies too frequently excited; demonstrating to every mind, so educated, that, so far from either being in any degree the natural antagonist of the other, they are all parts of one great and naturally harmonious system of human industry, of which a fair encouragement to any part is a benefit to all; and that all invidious and partial encouragement to any part at the expense of any other part, will prove to be an injury to all. The education proposed, will do all that can be done to mark the true line between natural and healthful encouragement to either interest, and an undue attempt to advance any one, at the expense of the united system, merely producing an unnatural and artificial relation and action, which cannot fail to work disease and injury.

The labors of this Society, and of kindred associations, have done much to inform the minds of our farmers in these collateral branches of knowledge useful to them, and much remains to be done. The science of production claims the first place, and is a wide field, as yet so imperfectly cultivated as to afford little time for collateral labors. To secure a stable and healthful market, and to learn how to retain and improve it, also opens an extensive field for the mental labors and energies of the farmer. Between these objects the relation is intimate and the dependence mutual. The production makes the market, and the market sustains the production. The prospect of a market stimulates to activity in the field of production, and the fruits of that activity urge the mind to make the prospect real. Success in both contributes to the health and vigor and prosperity of agriculture, and of that prosperity, commerce and manufactures cannot fail largely to partake.

All are willing to promote the cause of agriculture in our State and country. Most are ready to lend an active cooperation, and all are cheerful to see accomplished any valuable improvement in this great branch of productive industry. The difficulty hitherto has been in adopting any general plan to effect this desirable object. Hence, most usually, when the public mind has been awakened to the subject, arbitrary, and in many cases visionary experiments have been introduced, based upon no philosophical investigation of cause and effect, but upon some accidental trial, by a single individual, of some novel mode of culture, which, under the circumstances attending the experiment, has met with success. The single experiment, without an inquiry into, or a knowledge of the cause which, in the given case, has secured the successful result, is at once recommended as an infallible rule of husbandry. The publication and dissemination of detached experiments of this character, for a long period, constituted the most material additions to the stock of literary information connected with agriculture, supplied to our farmers; while many of the experiments were too intricate and complicated to be reduced to practice with any certainty of accuracy, and others were so expensive that the most perfect success would not warrant the outlay. Unsuccessful attempts to follow the directions given for making these experiments, brought what came to be denominated "book farming," into great disrepute with the industrious, frugal and successful farmers of the country, and excited a jealousy of, and a prejudice against this description of information upon agricultural subjects, which it has cost years of patient and unceasing effort in any measure to allay, and which are not yet removed.

In the mean time, geological research, heretofore principally confined to investigation into the mineral kingdom proper, has been extended to its legitimate office, and has brought within its examinations the formation of its various soils, and their minute constituent parts. Chemistry has commenced where geology closed, and by a careful analysis of these constituent of the various soils, of the principal agricultural products, and of the usual measures, is laboring to establish upon philosophical principles, the true relations between the soil and the manure to be applied, and between both and the crop to be planted and produced. It is seeking out, with rapid success, the appropriate food of the various vegetables cultivated by the farmer, the soils and manures in which the food for each is found, and the way in which it may be most successfully administered. So with the food of the domestic animals, and the most economical manner of feeding it.

These investigations are the reverse of the former system of arbitrary experiments. There, a result was made to justify the arbitrary means adopted to produce it. Here, causes are ascertained, and, being so ascertained, are relied upon to produce their natural effect—which effect is the result sought.

The importance of this great subject is effectually arousing the attention of the literary and scientific men of the country, and the success already experienced is drawing to these researches minds qualified for the labor, and energies equal to its rapid advancement. The progress made is bringing together the unsettled mind of the country, and producing the very general impression that the time has arrived when the foundations of a systematic, practical agricultural education should be had, and the superstructure commenced.

It is universally conceded that agriculture has shared but lightly in the fostering care and government patronage which have been liberally extended to commerce and manufactures, nor is it believed that additional public expenditure is necessary to enable the State to do all that can reasonably be required of it, to accomplish this great object. Our educational funds are rich, and the colleges, academies and common schools of the State share liberally in the distributions from them, while a Normal school, for the education of teachers, instituted at the seat of government, is also mainly supported from these funds. These institutions present the organization, through which, perhaps better than through any independent channel, this instruction can be universally disseminated among the agricultural population of the State. The annual additions to the school district libraries may be made with reference to this branch of education, and thus place within the reach of all, the discoveries as they progress and the rules of husbandry deduced from them as they shall be settled and given to the public from the pens of the competent professors engaged in pursuing the researches.

This Society, and like associations, may, through appropriate committees, their corresponding secretaries, public spirited commercial men, and otherwise, collect and embody in their transactions, facts and information respecting

the markets, foreign and domestic; the present and probable supply of agricultural products; the mode and manner of presenting the principal productions in various markets in the most acceptable form; the state and prospects of trade at home and abroad, and the changes present and prospective in the commercial policy of our own and other countries, with the probable influences upon the agriculcultural market. The commercial and agricultural press will doubtless come powerfully to the aid of the associations, in all efforts of this character, and having these great objects in view.

In this way the foundation may be gradually laid, and the materials collected for the commencement of those agricultural studies, which time and application, with the constant evidence of their utility in practice, would ripen into a system, to be engrafted upon the course of regular studies pursued in the colleges, academies and common schools, and made a branch of the studies of the male classes in the Normal School, placed under the superintendence of an instructor selected for the purpose, and qualified to prepare his classes for teaching the studies in the common schools of the State.

Thus a generation of farmers would soon come forward, well educated in the great and essential principles of agricultural production; in the true relations existing between agriculture, commerce and manufactures, and in the adaptation and preparation of their products for the agricultural markets. Such farmers, with the continued aid of the schools in which they were taught, would become the best manual labor instructors for their successors.

The passage of time reminds me that I am extending these remarks beyond the proprieties of the occasion and the patience of my audience. A single reflection shall close them.

However confidently the opinion may be entertained that other circumstances and relations might present a prospect for the agriculture of our State and country more stable, independent and flattering, certain it is, that the future here opened is full of cheering promise. We see in it the strongest possible security for our beloved country, through an indefinite period against the scourge of famine. Our varied soil and climate and agriculture double this security, as the disease and failure of any one crop will not, as a necessary consequence, reduce any class of our population to an exposure to death from hunger. We see also, in addition to feeding ourselves, that our surplus is almost, if not altogether, sufficient, if faithfully and prudently applied, even now to drive famine from the length and breadth of Europe. And that it is in our power, by faithful mental and physical application, soon to make it equal to the expulsion of hunger from the commercial world. We see that, dependent upon the commercial markets, our agriculture may bring upon our country a high degree of prosperity, and enable us, when extraordinary occasions shall call for its exercise, to practice a national benevolence as grateful to the hearts of the humane as to the wants of the destitute. And we see that by the wider diffusion and more secure establishment of a successful agricultural among our citizens, as a permanent employment, we are laying broader and deeper the foundations of our free institutions, the pride and glory of our country, and prized by its freemen as their richest earthly blessing; the history of all civil government, confirmed by the experience of this republic, furnishing demonstrative proof that a well educated, industrious, and independent yeomanry, are the safest repository of freedom and free institutions.

Science with Practice.

Upon this subject the Rev. Mr. Huxtable, of England, observes—

"By what process of cultivation, when we manure highly for wheat, the straw can be so much stiffened as to bear the increased weight of ear, is at present, in my humble judgment, one of the great problems in agriculture that presses for solution; as it is well known that this stiffness arises from the presence of the silicate potash (an imperfect sort of glass,) chemists have suggested that this soluble silicate, or that of soda, should be added to the ammoniacal manures which we use for wheat: but these salts are expensive; nor am I aware of any experiments having been made which would justify our incurring the outlay for them. Moreover, some interesting facts mentioned by Professor Johnston (*Journal of Agriculture*, p. 103, 1845) show that there is already abundant silica in our cultivated soils, and that plants are able to decompose and extract silica for their use, even from the most stubborn silicates. If there be alkali enough at hand, the vital forces of the smallest living plant will form the silicates it needs—a process which man accomplishes only by the blast of the hottest furnace. I think, therefore, that in seeking to remedy weakness of straw, we should rather try to diminish that rankness of vegetation in our corn crops, which causes that weakness; and this I think we can accomplish by a simple application. I think there is one cheap and effectual remedy: it is common salt. This will make the straw heavier and stiffer, and correct the tendency of the ammonia, in the manure, to produce a rank vegetation. Mr. Prideaux, of Plymouth, informs me that wheat grown very near the sea stands up better than that grown inland. Mr. Hannam testifies to the increased weight of the straw. Mr. Gardiner (*Highland Transactions*, p. 239, 1844) states, 'that 3 cwt. of salt per acre, thrown over wheat in May, produced no change of color, but improved the tillering of the plants, which had small stiff, shining, wiry straw.'

"Bones digested in sulphuric or muriatic acid have the same tendency to check rank vegetation and to strengthen the straw; see *Mr. Gardiner's Experiment*, p. 242; also an experiment of Mr. Fleming (*Johnston's Lectures*, Appendix, p. 28,) who dissolved his bones in muriatic acid, and applied the mixture to oats sown upon moss: he says that the straw appeared as stiff and shining as if it had been grown upon stiff loam.

"I think, then, that a *perfect* top dressing for the wheat crop, on light lands, should be composed of 2 cwt. of bones, well digested in 1 dwt. of sulphuric acid, 5 cwt. of shoddy, and 3 cwt. of salt; thus, in good years you might, I believe, grow six quarters of wheat per acre. On all light soils this assistance to the wheat should be given in the spring; but as in clay the decomposition of the shoddy is so slow, I should apply this manure when I sowed the wheat on my heavy land in the autumn. There is yet another way of growing a heavy crop of wheat on clay: lime the fields in autumn, two or three weeks before sowing; top dress, in the spring with superphosphate of lime, 3 cwt. of salt, mixed with 30 bushels of clay ashes, which have repeatedly been soaked in urine. I am vain enough to believe that this manure, suggested for wheat, will prove valuble, and quite worth the half-crown which you paid for your tickets."

Speaking of the lecture of which the above is an extract, the Mark Lane Express remarks:—"We earnestly recommend every farmer to get a copy of this lecture; it is published by Simonds, of Dorchester. A cheaper eighteenpenny-worth of useful information has never been offered to the agriculturist."

Three New York shillings for a single lecture—the price of the Genesee Farmer a year to most of its subscribers. The tickets to this lecture were sold at a "half-crown" each.

How many days and weeks have we not spent in delivering agricultural lectures, the analysis of soils and fertilizers, for nothing? The first whole year (1844) that we wrote for the Genesee Farmer we received just *four dollars* in Canada money for the service. Our compensation now, it is but justice to say, is all that the Publisher ought to pay at the low price of this journal. If each number was sold at six cents instead of three, the great principle would be practically acknowledged—that "the laborer is worthy of his hire." It would be an easy matter to charge six cents instead of three; but "book-farming" is so lightly esteemed in this country, that probably three-fourths of the readers of the Farmer would stop their paper.

Dig potatoes early. Look out for the rot.

HORTICULTURAL DEPARTMENT.

CONDUCTED BY P. BARRY.

Peaches.

The Peach Crop, in this section, has been the most abundant we remember to have seen.—Trees have broken down, in all directions, under their load, owing to the neglect of a proper thining. The backwardness of the early part of the season, cool nights during August, and the excessive load have together retarded the ripening process as much as ten days or a fortnight beyond the usual period. The early varieties particularly have been belated. The *Early Tillotson*, *Early Purple*, *Sweet Water*, *Early York*, *Cole's Early*, *Haine's Early*, *Cooledge's Favorite*, &c., have nearly all come in at once.

The above are all fine varieties, and have been sufficiently tested here to enable us to recommend them for Early Peaches in Western New York. The three latter varieties are but recently introduced here; this is the second year they have borne with us, and they have proved first rate.

Cole's Early Red is an uncommonly productive, medium sized fruit; deep red on the sunny side, of a rich and delicious flavor, far exceling the *Early Purple* in this respect, and ripening about the same time, or perhaps a few days later.

Cooledge's Favorite, a Massachusetts peach, is a fruit unsurpassed by any we have ever seen, in any place, for *beauty and excellence*. It is remarkably productive, the tree is one of the hardiest, fruit of medium size to large, about as large as the Sweet Water, with a bright crimson cheek, and mottled all over with great beauty and delicacy. This must be a popular Peach everywhere; if we had only two trees, one should be of this.

Haines' Early Red has borne with us this year for the second time, and proves to be a fruit of great excellence. The tree is one of the most vigorous and hardy, and bears abundantly. The fruit is large, and uniformly so, resembling the *Grosse Mignene* or *Royal Kensington* of this section; skin, pale in the shade, deep red in the sun; flesh, greenish white, abounding with a sweet fine flavored juice.—This Peach has been tasted and examined by hundreds of persons on our grounds this season, and without an exception it has been pronounced *first rate*. It will be a popular and very valuable early orchard variety for the market.

The *Snow Peach* is a regular and productive bearer, and is now (Sept. 14,) beginning to ripen. It is a beautiful and delicious fruit. It is perfectly distinct, being white as snow, almost, both skin and flesh.

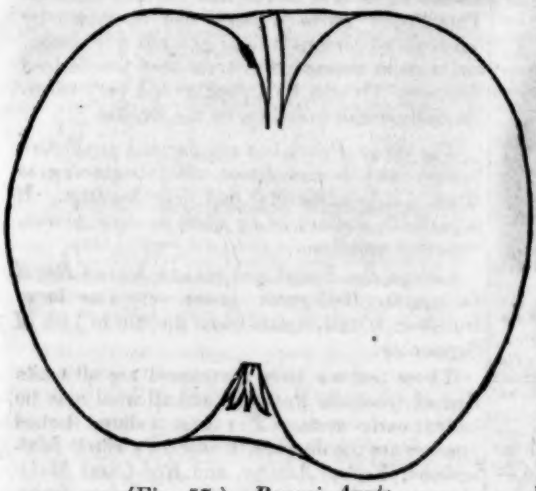
George the Fourth and smooth leaved *Royal George*, or *Bellegarde*, prove very fine large fruits—ripe this season about the 8th to 14th of September.

Those that we have mentioned are all white fleshed freestone Peaches, and all what may be called early sorts. The best yellow fleshed peaches are the *Jacques*, *Crawford's Early Malacatoon*, *Yellow Alberge*, and *Red Cheek Malacatoon*—all large, productive, delicious fruits, well adapted for the market, and all ripening before the 20th of September, in ordinary seasons. The *Morris' White Rare Ripe*, *Old Mixon free*, and *Weld's free*, are large, fine, later varieties, and the *Lemon* and *Orange* clings are among the best of that class.

We believe those we have mentioned cannot be surpassed for market varieties in this or more northern sections. We have not mentioned several fine varieties that do well here, nor the *Crawford's late Malacatoon*, as we have not yet seen it ripened here.

The abundant crop this season, such as we have not had for many years, and may not again for some years to come, has reduced the price to something like a fair reasonable standard, affording to thousands of persons who before never tasted a good peach, to indulge partially in that luxury. For a week or ten days *Early Purple*, *Sweet Water*, &c., sold at $2,50 to $3 per basket—then they came down to $1, and we believe less. But even at the lowest, large fine specimens sold for $2 to $2,50; yet a dollar a basket is high enough, and our fruit growers have no reason to complain. At that rate a good five year old tree will produce 4 to 5 or more dollars—a most ample remuneration. We rejoice to see peaches growing plenty and cheap, and hope they will continue to do so until the whole working population of our cities and villages will be able to eat plenty of *good* peaches, and until our Canadian neighbors, and those who cannot grow peaches in our own State, may be supplied with choice *Sweet Waters*, *Cole's Haines*, *Kensingtons*, *Crawfords*, *Jacques*, &c., instead of the miserable, stony, sour, hog peaches now shipped to them, and that we have really felt ashamed to see leave the shores of our fine peach growing country.

The "Benoni" and "Summer Queen" Apples.



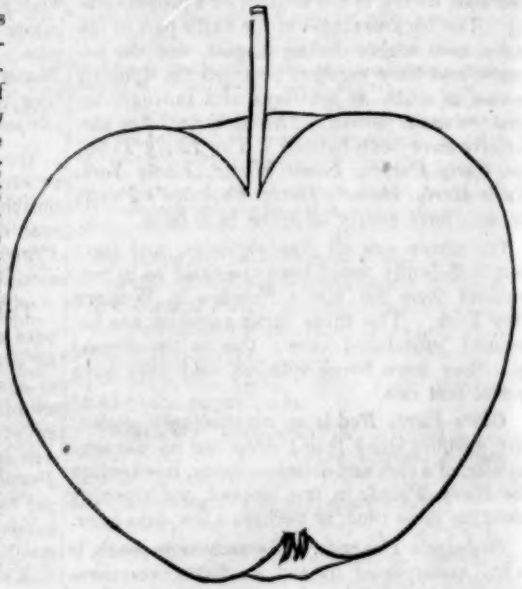
(Fig. 57.) *Benoni Apple.*

Benoni.—This is an early apple of the very finest quality—ripe, here, latter end of August and beginning of September.—Fruit, medium size, sometimes large—roundish, of a beautiful bright red color, showing a little pale yellow ground in the shade. Stalk short, in a regular cavity. Calyx open, in a narrow, smooth and pretty deep basin. Flesh, white, crisp, juicy; pleasant sub-acid flavor. This apple has been kept longer with us, after being picked, without losing its juice, freshness and flavor than any other, and this is a quality of some importance.

The tree is a vigorous, upright grower; young shoots of a reddish brown color.—Leaves large, slightly folded in at the edges, and deeply serrated. This is a Massachusetts fruit, introduced by E. M. Richards, of Dedham, and stands at the head of their summer apples in Mass.

Summer Queen.—This is a beautiful as well as an excellent dessert summer fruit—ripening, here in Western New York, during the latter half of August and first of September—coming in just after the *Early Harvest* and *Red Astrachan*. It is above medium size, being quite large on young thrifty trees—inclined to conical shape, being broadest a little below the crown and tapering to the eye, where it is usually quite pointed. Stalk long, over an inch, deeply inserted. Calyx closed in a shallow plaited basin. Skin pale yellow, striped and mottled with bright and deep red—quite covered with red in the sun. Flesh yellowish white, rich and fine flavored—stained with red on the exposed side.

The tree is of rapid growth, and has a peculiar spreading habit; young wood of a light reddish brown, covered with whitish down easily rubbed off. Leaves light delicate green. The tree is distinct. It is an early and most abundant bearer, and makes an orchard tree of the first class.



(Fig 58.) *Summer Queen.*

Answer to Inquiries.—Our correspondent at Ithaca will find his inquiries, respecting the 12 best varieties of peaches, anticipated in the leading article in this Department of the present number. All the varieties there mentioned have been fruited here under our own eyes, and the remarks made are consequently based on actual observation.

As to the season for planting we cannot speak decidedly. On dry ground, not wholly exposed to the north and west winds, we prefer early fall planting—say middle of October, for all hardy trees; but on ground where water would be likely to lodge around the roots for any great length of time, or where the trees would be exposed to the unobstructed severity of the north and west winds during winter and early spring, we would advise spring planting. In either case prepare your soil well by two or more thorough, deep plowings. Procure good trees, of good varieties, and have them planted in the very best manner. See remarks on this subject, in another place.

H.'s article, on the Blight, next month.

Horticultural Festivals in Boston and Phil'a.

We had, during the past month, the pleasure of attending the exhibitions of the two oldest and best Horticultural Societies in America—those of Pennsylvania and Massachusetts.

They were both unusually fine. It was a feast, such as we have not had in some years, to see so many new and rare fruits, flowers, and vegetables, —and to meet with so many distinguished amateur and professional cultivators.

We also visited several of the best collections of fruits in the country, and have collected a budget of memoranda that will be serviceable to ourselves and to the readers of the Farmer hereafter. Philadelphia excels in *plants and flowers* and floral designs—Boston in *fruits*. Philadelphia turns out whole Green Houses of plants, and immense quantities of everything. Boston excludes nearly everything but Pears; of these Mr. Manning, of Salem, exhibited over 200 varieties; M. P. Wilder, Esq., Pres't of the Society, over 150; Messrs. Hovey & Co., S. Walker, Esq., of Roxbury, and many others—great collections. Splendid Grapes, grown under glass, were exhibited by Messrs. Hovey & Co., and others. We saw magnificent bunches of *Black Hamburg*, *Syrian*, *Wilmot's new Black Hamburg*, *White Frontignac*, *St. Peters*, *Rose Chasselas*, (this is a beautiful Grape,) *Golden do.* These are the leading sorts grown. This is becoming a great business at and around Boston—in every direction there are grape houses. There is every encouragement for them—the common market price, at which there is nothing like a supply, is 75 cts. to $1,00 per lb.

We hope to see grape houses erected in Western New York and other sections soon. Other people could eat fine Black Hamburgs and Muscats as well as the Bostonians. We shall refer to this matter again.

Transplanting Trees.

Autumn planting should be commenced just as soon as practicable—that is, as soon as cold weather and frosts have fairly arrested vegetation. By early planting you gain a month or more before heavy frosts set in, and trees become firmly fixed in their new situation, and in many cases will have made new roots. Planting at this season should be done only on *dry* ground, where there cannot be the least apprehension of water lodging around the roots; but this caution is unnecessary, as few persons will think of planting trees on wet ground till *thoroughly drained.*

In our last volume (page 263) we gave a description and illustration of a mode of supporting autumn planted trees, to which we must refer those who are now about planting. It has been found to answer, completely, the double purpose of securing the tree against the winds and preventing the frosts from penetrating to the roots. To all who are about to plant we would say, be sure to select good sorts—get good healthy trees —have them carefully dug with the roots uninjured—carefully packed before taking them from the nursery—and then planted in the very best manner.

Horticultural Exhibition at Rochester.

The Horticultural Society of the Valley of the Genesee held its annual exhibition in Minerva Hall, on the 23d ult. The display of Fruits, Flowers and Vegetables was unusually fine. The increased number of contributors, and the great variety and superior quality of the articles exhibited on this occasion, bears gratifying evidence of the zeal and rapid progress that we are now making in every department of Horticulture.

The reports of Committees have not been prepared until our day of publication, so that we are unable to give any details. We shall do so in the next number. The ladies, we are glad to say, did their part well—four, we believe, exhibited 150 varieties of flowers each.

Don't Steal that Fruit.

Sure, an' ye don't call it stealing to get over and take a little fruit, do ye? Yes we do, and the *meanest* kind of stealing, too. You would'nt walk into that man's house and take his money from his draw, nor his bread from his table, and yet very likely that money and that bread has not cost its owner half so much labor, and is not half so much prized and valued as his fruit.—Don't steal it. Children and young people are generally the trespassers on this sort of property. They ought to be carefully cautioned by their parents,—by their guardians,—by their school-teachers, and by the whole of the older parts of the community, to avoid these species of transgression. Nothing is more aggravating to a person who has for years spent his time and his money in rearing up good fruit of any kind, than to have it filched from him by any body.—The theft is contemptibly mean, and yet there are many who look upon it as a very trivial affair, and as one hardly deserving the trouble of a rebuke, when the whole community ought to frown it down.—*Maine Farmer.*

Give Credit.—Editors copying articles from the *Genesee Farmer* will please give proper credit. We almost daily find articles in our exchanges, copied from this journal, without the least acknowledgment. Many articles, which originally appeared in the Farmer, are going the rounds of the papers, credited to other journals. "A word to the wise."

The Ripening of Winter Pears.

Cultivators of the Pear begin to understand the necessity of properly ripening sorts, in order to bring them to perfection. Hence we have lately had many inquiries on the subject, and even requests to furnish through this paper plans for *fruit houses*. The following article from the "Horticulturist," on this subject, by S. Walker, Esq., of Roxbury, Mass., is the best we have seen, and will furnish to those of our readers who are interested in this matter, some valuable hints:

The increasing demand for fruit, and more particularly for autumn and winter pears, has caused frequent inquiries to be made by the cultivators of this delicious fruit, as to the best mode of keeping and ripening the different varieties for the table and for the market. The subject, at present, is but partially understood; but, with your permission, I will venture to offer a few crude hints, and all the practical experience I possess on the subject.

"To begin at the beginning," I consider it very desirable that every fruit-grower should have a *Fruit-House*, or *Fruit-Rooms*, consisting of at least two apartments, viz: a *keeping* and a *ripening* room. For this purpose I would suggest an ornamental building of brick, stone or other material, so constructed as to keep out the frost, divided into two rooms of such size as may meet the wishes and wants of the cultivator.

The floor of the keeping-room to be of brick or stone; the ripening-room floor to be of wood, if you please, covered with a carpet, and to render it comfortable and suitable for the purpose, a fire-place to heat the apartment when necessary.

The same treatment will not, I believe, suit all the kinds of pears (maturing at the same season) whether they be autumn or winter varieties. For illustration, let us compare the *Chaumontal* and the *Vicar of Winkfield* (*Monsieur le Cure*;) the first will ripen when subjected to great changes and exposure to frost; indeed, it may be left upon the ground with only a slight covering of leaves, grass or other light substance, at times covered with snow, the thermometer varying from 10° above zero to summer heat, and still the ripening process advances, and is, in all probability, accelerated by these sudden changes until the fruit is nearly ripe, at which time, if the fruit is taken into a cold cellar for a few days, (if frozen put into some soil to take out the frost,) and then removed into the keeping-room, there boxed up with cotton batting, and then placed in the ripening apartment, the maturing process will be promoted until the fruit has acquired its highest state of perfection. These remarks, I have no doubt, will apply to other varieties, of which time and experience will give, to the close and attentive observer, further information on this important subject. I will, however, venture to express an opinion that the *Beurre Rance* and *Easter Beurre* may be put into this class.

On the contrary the *Vicar of Winkfield* belongs to a class of pears requiring a very different course of treatment. This variety should never be exposed to frost, but for late keeping it should be placed upon the floor of the keeping-room, and whenever the fruit is wanted for the table it should be put into tight boxes, wrapped up in cotton, and placed in the warmest part of the ripening-room, the temperature varying from 55° to 75°; in this manner the fruit will be ripe in from fifteen to twenty days. Having thus attempted to show that the same treatment is not adapted for the ripening of all the varieties of the pear, (and this I have no doubt will apply to the apple,) I shall proceed to give my views as to the general treatment of autumn and winter pears.

All pears which come to maturity in the autumn and winter, should not be *gathered* until the fruit has attained its full growth, (the middle of October is about the season in the neighborhood of Boston.) This should be done by hand, some fine day when the fruit is perfectly dry, putting it away carefully into barrels,* buckets or boxes,† according to quantity, keeping each kind separate, labeling the same with its name, the day it was gathered and the season of its ripening. The fruit having been thus gathered and secured, it should be arranged in the *keeping-room* of the fruit-house, as the owner may think proper. The barrels may be placed upon the floor, the baskets hung up, and the boxes placed upon shelves. Where large quantities of any one kind are raised, bins may be proper.

The fruit being now placed in the keeping-room, care should be taken to keep the room cool, dark and dry; shutters and curtains should be provided for the windows, to close them up during the day, if the weather is bright, dry and hot; at night, when the weather will permit, the thermometer not ranging below 30°, the windows may be all, or in part, left open for fresh air and ventilation. The windows and shutters should be closed early in the morning, to keep in the night air and to preserve the fruit. If mould or mildew should be seen upon the fruit, it should be removed with a dry cloth or silk handkerchief; if about the floor, or other part of the building, strew a small quantity of air slaked lime about the room.

As the period of ripening approaches, all the varieties should be examined; the fruit that shows signs of its soon coming to maturity should be carefully packed up with layers of cotton batting, in tight boxes, and in no case should the box be opened or the fruit unnecessarily exposed to the air. From the time fruit is gathered, until it is *fully* ripe, it should, in my opinion, be kept in close, dry vessels. The pears thus boxed up should be placed in the ripening-room, keeping the room at a temperature of from 55° to 75° of heat. As the fruit becomes ripe, send it to the table. When the fruit is intended for sale, it should be sent to market *a few days* befor it is *fully ripe*. Samuel Walker.

* All vessels used to keep fruit in should be perfectly dry, clean, sweet and tight. Barrels, after they have been used as "flour barrels," are not at all suited for fruit, unless well washed and dried, as the particles of flour left in the barrel will mould, and impart to the fruit an unpleasant odor and flavor. Fruit put into lime casks has kept well. Every thing in contact with fruit should be sweet and clean, and the vessel in which it is placed dry and tight. It should be handled or disturbed as little as possible.

† When fruit is put into small boxes, to ripen, it may be wrapped up in cotton batting, but while it remains in the keeping-room, neither straw, paper or other like material should be placed with the fruit, as it is always more or less injurious.

Acknowledgments.

To H. K. Norton, Esq., Brockport, for a couple of branches loaded with very pleasant juicy little pears, now in eating (Aug. 25.) In size less, and in shape somewhat similar, to the Madalaine, but with a much longer stalk.—We suppose it to be the Long stem Blanquet. It is not so fine flavored as the Skinless, ripening at the same time—but as it appears *to be a fine bearer*, it may be worthy of culture.

—S. Worden, of Oswego, for a box of fine specimens of the Pie Apple. We noticed this fruit last season. It is a valuable variety, being a remarkably fine grower, an abundant bearer every year, and withal a most excellent fruit for cooking and dessert. We shall give a figure and description of it soon.

—W. E. Arnold, Esq., for beautiful specimens of his "Genesee Chief Apple," "Fall Russet," and another excellent variety which he has been in the habit of calling "Sour Bow," a not uncommon synonyme for the "Early Harvest," in this section. This apple, however, is on an average more than one-third larger, in eating three weeks to a month later, and is much more flattened. The color and flavor are the same as the Early Harvest, and the wood is similar. Mr. A.'s apples are somewhat of a puzzle to us. The trees were planted by an Englishman, many years ago, and appear to have been imported.

—John Morse, Esq., of Cayuga, for a box of specimens of the Augustine Apple—a large, oblong apple, pale yellow in the shade; bright red, sprinkled with gray spots, in the sun. Flesh, fine grained, rich, and sweet. In appearance it resembles the American Summer Pearmain, but is lighter colored. In our opinion this is a most desirable summer sweet apple.

—L. Risley, Esq., of Fredonia, for specimens of the Risley Orange Apple—a very large oblong fruit, inclining to conical—of a greenish color, becoming deep yellow when ripe. Flesh coarse, but crisp, juicy, rich, and fine flavored. In eating now, (Sept. 12.) This is an excellent September fruit, very popular through Chautauque county.

LADIES' DEPARTMENT.

Making Pickles.

This is the season for making pickles, and we are sure many of our female readers will thank us for inserting the following extracts from Miss Beecher's Receipt Book:

Pickles.—Do not keep pickles in common earthen ware, as the glazing contains lead, and combines with the vinegar.

Vinegar for pickling should be sharp, but not the sharpest kind, as it injures the pickles. If you use copper, bell metal, or brass vessels for pickling, never allow the vinegar to cool in them, as it then is poisonous. Add a table spoonful of alum and a teacup of salt to each three gallons of vinegar, and tie up a bag with pepper, ginger-root, and spices with all sorts in it, and you have vinegar prepared for any kind of common pickling.

Keep pickles only in wood or stone ware.—Anything that has held grease will spoil pickles.

Stir pickles occasionally, and if there are soft ones, take them out and scald the vinegar, and pour it hot over the pickles. Keep enough vinegar to cover them well. If it be weak, take fresh vinegar, and pour on hot. Do not boil vinegar or spice over five minutes.

To Pickle Tomatoes.—As you gather them, throw them into cold vinegar. When you have enough, take them out, and scald some spices tied in a bag, in good vinegar, and pour it hot over them.

Fine Pickled Cabbage.—Shred red and white cabbage, spread it in layers in a stone jar, with salt over each layer. Put two spoonsful of whole black pepper, and the same quantity of allspice, cloves and cinnamon, in a bag, and scald them in two quarts of vinegar, and pour the vinegar over the cabbage, and cover it tight. Use it in two days after.

To Pickle Cauliflower or Brocoli.—Keep them twenty-four hours in strong brine, and then take them out and heat the brine, and pour it on scalding hot, and let them stand till next day. Drain them, and throw them into spiced vinegar.

To Pickle Onions.—Peel, and boil in milk and water ten minutes, drain off the milk and water, and pour scalding spiced vinegar on to them.

To Pickle Gherkins.—Keep them in strong brine till they are yellow; then take them out and turn on hot spiced vinegar, and keep them in it in a warm place, till they turn green. Then turn off the vinegar, and add a fresh supply of hot, spiced vinegar.

Mangoes.—Take the latest growth of young muskmellons, take out a small bit from one side, and empty them. Scrape the outside smooth, and soak them four days in strong salt and water. If you wish to green them, put vine leaves over and under, with bits of alum, and steam them awhile. Then powder cloves, pepper, and nutmeg in equal portions, and sprinkle on the inside, and fill them with strips of horseradish, small bits of calamus; bits of cinnamon and mace, a clove or two, a very small onion, nasturtions, and then American mustard seed to fill the crevices. Put back the piece cut out, and sew it on and then sew the mango in cotton cloth. Lay all in a stone jar, the cut side upward.

Boil sharp vinegar a few minutes, with half a teacup of salt, and about a tablespoonful of alum to three gallons of vinegar, and turn it on to the mellons. Keep dried barberries for garnishes, and when you use them turn a little of the above vinegar of the mangoes heated boiling hot on to them, and let them swell a few hours. Sliced and salted cabbage with this vinegar poured on hot is very good.

An Improvement in Bread-making.—Persons who are so unfortunate as to be poorly provided with those agents of mastication, good teeth, will be glad to know that there is a method of baking bread which obviates the necessity of a hard crust. The crust commonly attached to the loaf is not only troublesome to such persons, but is often the cause of much waste. The way to be rid of it is as follows: When the loaves are moulded, and before they are set down to 'rise,' take a small quantity of clean lard, warm it, and rub it lightly over the loaves. The result will be a crust beautifully soft and tender throughout. This is not guess-work.—*Prairie Farmer.*

Corn Meal Cakes.—Excellent breakfast cakes can be made in the following manner: Mix two quarts of corn mesl, at night, with water, and a little yeast and salt, and make it just thin enough to stir easy. In the morning stir in three or four eggs, a little saleratus, and a cup of sour milk, so as to leave it thin enough to pour out of a pan; bake three-quarters of an hour, and you will have light, rich honeycomb cakes—and with a good cup of coffee and sweet butter at breakfast, one finds with Hamlet, "increase of appetite to grow with what it feeds on.

Frying Fish.—A writer in the Boston Courier says that fresh fish should never be put into cold fat when they are to be fried. They thus absorb it, and become unfit to eat. The fat should be plenty enough to prevent the fish sticking to the pan, and boiling hot when the fish is put in. It is thus cooked quickly, and is in fine eating order when taken up. These rules will not apply to meats.

The Pear leaf has 24,000 pores to the square inch, on the under side. The Pink has about 38,500. Some plants have as many as 160,000.

Paring Peaches.—There may be some who have an abundance of peaches this season, who would like to know some more expeditious way of pairing to dry, than the common way of flaying with a knife. I have tried the plan of scalding as an experiment, and found it successful, and would suggest it through the medium of the Farmer, that others may try it if they see fit.

The method of scalding which I prefer is to have a kettle, of convenient size, partly filled with water heated to about the boiling point; then have the peaches in a basket, or vessel with holes in the bottom, and immerse in the scalding water. The peaches must be ripe (or mellow all over,) for scalding. They can be paired in this way with much facility, by slipping off the skin. They should be stoned and spread for drying soon after pairing, as they become more soft and of a darker coler by lying in a mass.

Summit Co., Ohio, 1847. A Subscriber.

Music in the Family.—Its beneficial effects may not be doubted. No family should fail to encourage the largest possible amount of musical talent. Independent of its happy influences on the mind, it should be fostered on account of its physical advantages. The late Dr. Rush said, "The Germans rarely die of consumption, because they are always singing." If this beautiful accomplishment tends in any degree to mitigate a malady so terrible, for the world's sake, let us have a world of it. But there are other reasons—it induces amiability and banishes bad passions. We have somewhere read the testimony of an excellent clergyman, possessing much knowledge of human nature, who instructed a large family of daughters in the ordinary practice of music. They were observed to be amiable and happy. A friend inquired if there was any secret in his mode of education, to which he replied: "When anything disturbs their temper, I say to them, sing; and if I hear them speaking against any person, I call them to sing to me; and they sing away all the causes of discontent, and every disposition to scandal." Such a use of this accomplishment might seem to fit a family for the company of angels; young voices around the domestic altar, breathing sacred music at the hour of morning and evening devotion, are a sweet and touching accompaniment.

The Affections.—How beautiful are these words of Longfellow: "One by one the objects of our affection depart from us. But our affections remain, and like vines, stretch forth their broken, wounded tendrils for support. The bleeding heart needs a balm to heal it; and there is none but the love of its kind—none but the affection of the human heart."

Obituary.

Died, in this City, on Sunday morning, September 5, LILLA, only daughter of Daniel D. T. and Anna E. Moore, aged 1 year and 22 days.

MARKET INTELLIGENCE.

Rochester Produce Market—Wholesale.

Wheat,	$1 10	1 12	Pork, bbl. mess	15 00	16 00
Corn,	50		Pork, cwt.,	4 50	5 00
Barley,	50		Beef, cwt.,	3 00	4 00
Oats,	38	40	Lard, lb.,	9	10
Flour,	5 12½	5 18¾	Butter, lb.,	12	14
Beans,	75	87	Cheese, lb.,	5½	6
Apples, bush.	12	37	Eggs, doz.,	10	
Potatoes,	18	25	Poultry,	6	
Clover Seed,	4 50		Tallow,	10	
Timothy,	1 50	2 00	Maple Sugar,	—	
Hay, ton,	8 00	10 00	Lamb Skins,	31	44
Wood, cord,	2 00	3 00	Green Hides, lb	4	
Salt, bbl,	1 25		Dry "	7	8
Hams, lb,	8	10	Calf Skins,	9	

Rochester, Sept. 30, 1847.

New York Market.

[*By Magnetic Telegraph.*]

New York, Sept. 30—7 P. M.

Flour and Meal—Market without marked change, and good enquiry from home trade. Sales 4 or 5000 bbls at $5,87½ for new Genesee; $5,69a$5,75 for fresh ground do: $5.62½a$5,75 for fresh western and Oswego, and $5,50a$5,75 for old weste.n and Genesee. Nothing sound below $5,50. Sour flour $4,25, and uninspected $4,87½a$5,12½. About 2600 bbls sold. Receipts of Flour moderate. Rye Flour is $4,25, and supply very small. Buckwheat Flour $2,25a$2,50.

Grain—Good enquiry for wheat; receivers firm, for a good parcel Genesee $1,25; sales 1000 bush Fredericksburg at $1,19, and a cargo North Carolina under negotiation at $1,20; 7 or 8000 bush red western and New Orleans at 92c@$1,06, according to quality. Corn, fair enquiry, but dull at the close; sales 25,000 bush at 66a67 for mixed, 68a69 for yellow, including 3000 bush round yellow at 67 cts in slip. Rye fell off 3 or 4 cts; sales 8000 bush at 80a83c closing at 81c; new Barley 80c asked, no sales. Oats 54a56 cts at retail.

Provisions—Pork firm but not active; sales 700 bbls at $10,75a$11 for prime, and $14,25a$14,50 for mess. Beef is dull at $7,75a$8,25, and $11,75a$12,25. Lard quiet.—Cheese in fair request: 1500 boxes Herkimer sold at 7½, and 500 do Ohio at 6¼a7¾c.

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